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ABSTRACT

Fourteen papers are presented from a conference on severe behavior disorders of children and youth. The following titles are included: "Beyond the Classroom: The Teacher of Behaviorally Disordered Pupils in a Social System" (C. Nelson); "Correctional Education and Special Education--An Emerging Partnership; or 'Born to Lose'" (B. Wolford); "Naturalistic Observation of Teacher Verbal Behavior in Classes for the Learning and Behavior Disordered" (R. Gable et al); "Aversiveness and Frequency of Use of Commonly Used Interventions for Problem Behavior" (F. Wood and B. Hill); "Training Teachers of Emotionally Handicapped Children: Priorities Identified by School Practitioners" (D. Lutkemeier); "IMPACT: A Functional Curriculum for Educating Autistic Youth in Natural Environments" (R. Neel et al); "Nonhandicapped Peers as Tutors for Severely Behaviorally Disordered Students" (W. Stainback and S. Stainback); "Making Decisions about the Noncompliance of the Severely Behaviorally Disordered and Autistic Individuals" (A. Hilton); "Brief Psychiatric Hospitalization: A Study of Its Effect on Special Education Placement" (S. Forness et al); "Levels and Combinations of Metal Pollutants and Measures of Behavioral Disturbance" (M. Marlowe et al); "The Effects of Medication and Curriculum Management on Task-Related Behaviors of Attention Deficit Disordered and Low Achieving Peers" (V. Thompson et al); "The Why, What, and How of Affective Education" (L. Brown and A. McKinnon); "Curriculum for Caring: Service Learning with Behaviorally Disordered Students" (A. Nicolaou and L. Brendtro); and "Understanding the Relationship between Cognitive Development and Classroom Management Decisions" (P. Zionts and C. Weddle). (CL)

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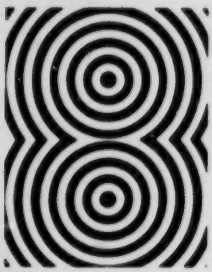

Severe Behavior Disorders of Children and Youth

Summer of 1983

Robert B. Rutherford, Jr., Editor

Anne M. Rhodes, Technical Editor

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Monograph in Behavioral Disorders is a special publication issued by the Council for Children with Behavioral Disorders to augment the organization's quarterly journal, *Behavioral Disorders*. The *Monograph* is designed to treat topics in an intensive, highly-focused manner not usually appropriate for standard journal presentation.

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Contents

PREFACE iii

KEYNOTE PAPERS

Beyond the Classroom: The Teacher of Behaviorally Disordered Pupils in a Social System 1
C. Michael Nelson

Correctional Education and Special Education— An Emerging Partnership; or "Born to Lose" 13
Bruce I. Wolford

Naturalistic Observation of Teacher Verbal Behavior in Classes for the Learning and Behavior Disordered 20
Robert A. Gable, Jo Mary Hendrickson, and Clifford C. Young

Aversiveness and Frequency of Use of Commonly Used Interventions for Problem Behavior 28
Frank H. Wood and Bradley K. Hill

Training Teachers of Emotionally Handicapped Children: Priorities Identified by School Practitioners 35
David M. Lutkemeier

IMPACT: A Functional Curriculum for Educating Autistic Youth in Natural Environments 40
Richard S. Neel, Felix F. Billingsley, and Cathleen Lambert

Nonhandicapped Peers as Tutors for Severely Behaviorally Disordered Students 51
William Stainback and Susan Stainback

Making Decisions about the Noncompliance of the Severely Behaviorally Disordered and Autistic Individuals 58
Alan Hilton

Brief Psychiatric Hospitalization: A Study of Its Effect on Special Education Placement 66
Steven R. Forness, Thomas R. Barnes, and Julie M. Mordaunt

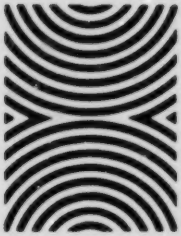
Levels and Combinations of Metal Pollutants and Measures of Behavioral Disturbance 76
Mike Marlowe, John Errera, Chuck Moon, Jim Jacobs, and Tom Ballowe

The Effects of Medication and Curriculum Management on Task-Related Behaviors of Attention Deficit Disordered and Low Achieving Peers 86
Verlinda P. Thompson, Edward E. Gickling, and John F. Havertape

The Why, What, and How of Affective Education 98
Louis F. Brown and Archie McKinnon

Curriculum for Caring: Service Learning with Behaviorally Disordered Students 108
Abe Nicolaou and Larry Brendtro

Understanding the Relationship between Cognitive Development and Classroom Management Decisions 116
Paul Zionts and Charles Weddle



Preface

This monograph represents the sixth in a series entitled *Monograph in Behavioral Disorders* produced by the Council for Children with Behavioral Disorders. This monograph covering Severe Behavior Disorders of Children and Youth is based upon a collection of papers presented at the Sixth Annual ASU/TECBD Conference on Severe Behavior Disorders of Children and Youth held at Arizona State University. The 112 articles published thus far in the monograph series represent a sample of the 410 papers and workshops presented at the conferences.

For the past several years, the papers submitted for the monograph have undergone blind peer review. Special thanks are offered to the members of the Editorial Board of *Behavioral Disorders* for reviewing these papers. The Associate and Consulting Editors have contributed greatly to the quality of both the journal and the monograph series.

Robert R. Rutherford, Jr,. Ph.D.
Editor

Beyond the Classroom: The Teacher of Behaviorally Disordered Pupils in a Social System

C. Michael Nelson

There is little need to point out that special educators working with behaviorally disordered pupils must extend their efforts beyond their own classrooms; neither is it necessary to remind teachers that they work in a social system. However, I have been surprised at the lack of emphasis given to aspects of a teacher's job which extend beyond direct instruction and communicating with parents. In many cases, behavior problems interact with, or create, or exacerbate system problems, and, conversely, problems with human service delivery systems can intensify or multiply problem behaviors. The ecological model of disturbance (Rhodes, 1967, 1970, 1980) has helped professionals conceptualize behavior disorders in a "systems" framework, in that it views problem behavior as the result of interactions between the person regarded as disturbed or disordered and his or her specific microcommunities (e.g., a neighborhood peer group, school classroom, home, Sunday School class). Whether the individual is perceived as disordered depends upon the nature of that person's interactions within a given microcommunity, and the judgments applied by members of that microcommunity to the person's behavior. If a significant discrepancy exists between the individual's behavior and the expectations of the microcommunity, interactions with the person are likely to be seen as disordered (Kerr & Nelson, 1983). While an individual's behavior disorders may be very real, it is also possible that the microcommunity is partly responsible; for example, inappropriate parental expectations may contribute to disordered behavior. The ecological model further suggests that change efforts be directed toward all parties involved in disordered interactions; that is, change must occur on both sides in order to correct the disorder.

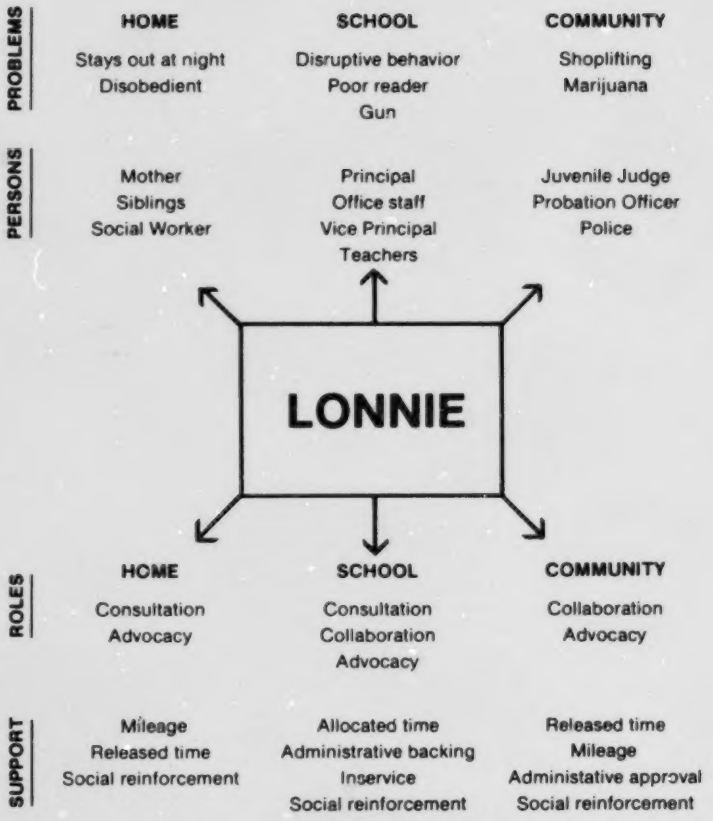
If the ecological analysis is correct, and I think it is, the practice of applying "treatment" in isolated settings (e.g., therapist's office, special clasroom) to the person labeled as disordered is inadequate. In terms of special education, the teacher should be able to work outside the special class, involving other persons and microcommunities in intervention efforts. The reasons are obvious to any educator who has dealt with behaviorally disordered pupils. First, our clients often experience their most significant problems in microcommunities other than the special class. Second, other persons in these microcommunities need help in changing

their interactions with our clients. Finally, one of our major goals is to move our clients into less restrictive settings, a move that calls for generalization and maintenance training, which cannot be adequately accomplished in a segregated classroom (Stokes & Baer, 1977). For example, consider the following vignette:

> Lonnie is a 14-year-old boy who has been enrolled in classes for emotionally disturbed students since he was in the fifth grade. Presently, he is in a resource room for 3 hours a day, and is mainstreamed into health, woodworking, and civics classes.
>
> Lonnie's mother is divorced, and works in a local dry-cleaning plant to support herself and her four children, of whom Lonnie is the oldest. She doesn't have a high school diploma or any vocational training, and so is making only a little over the minimum wage. Frequently, she works evenings and weekends as a cocktail waitress. She has been arrested twice for prostitution. She complains that Lonnie stays out at night, and doesn't mind her at all.
>
> During his mother's frequent absences from home, Lonnie is "in charge" of his younger siblings who range in age from 6 to 11. A social worker who made a home visit reported that the children were poorly clothed, the apartment was dirty and too small for five people, and Lonnie was not able to tell her where two of his brothers were at the time of the visit. The social worker has referred the family to Child Welfare for further investigation.
>
> Lonnie has come to the attention of the juvenile authorities for shoplifting and possession of marijuana. He has appeared before the juvenile court three times, and currently is on 6-month probation.
>
> At school, Lonnie has developed a reputation as an immature, acting-out youngster who frequently causes classroom disruptions. Although he is mainstreamed, his progress in regular classes has been unsatisfactory because of discipline problems and his poor reading ability, which hinders his academic performance. His regular class teachers describe him as distractable, as a trouble-maker, and as requiring constant supervision. He spends at least one period almost every day in the principal's office.
>
> The latest problem developed when Lonnie brought a loaded gun to school and told his civics teacher that he would shoot himself in the foot if the teacher didn't alter her decision to exclude him from a field trip scheduled for that day. The vice principal was called, and managed to get the gun from Lonnie. Lonnie is now on indefinite suspension until the school and the juvenile authorities can make a decision about what to do with him.

Figure 1 analyzes Lonnie's situation in terms of problem behaviors, the settings in which they occur, and the other persons involved with Lonnie's behavior disorders. At the bottom of the figure are listed the roles Lonnie's special education teacher would need to assume in each of these settings, and the support he would require to function effectively. Unfortunately, most teachers of behaviorally disordered students lack both the preparation and the support to manage these roles. They are trained primarily to deliver direct instruction, their services are perceived as being restricted to segregated special classes, and their schools do not offer the practical

FIGURE 1
Case Analysis



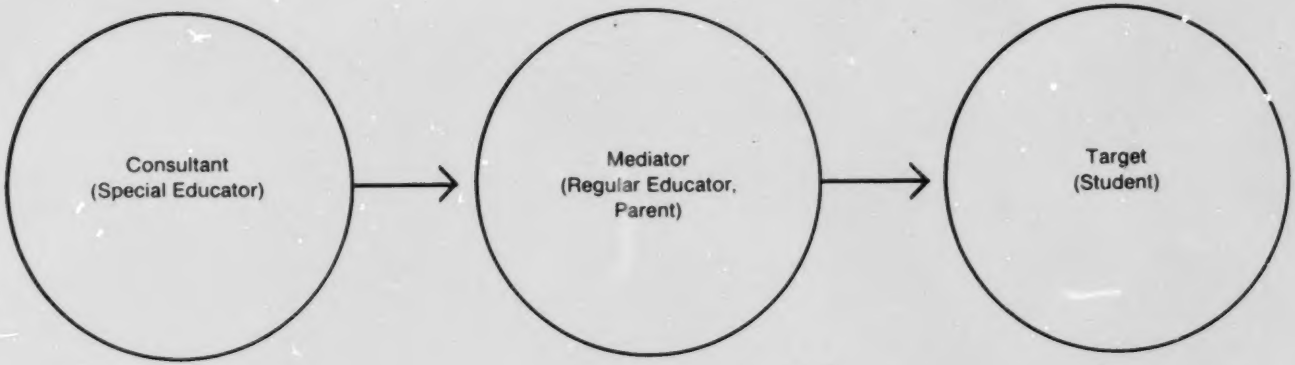
support needed to work outside of the classroom. In this sense, the system is indeed part of the problem. Nevertheless, effective teachers must be able to work with other professionals within and outside the school setting. The remainder of this paper will describe the extra-classroom roles a teacher might perform and will offer suggestions for increasing effectivenes when working outside the special classroom.

ROLES

Consultation

Lilly and Givens-Ogle (1981) defined consultation as providing indirect services to students through direct services to those experiencing disor-

FIGURE 2
The Triadic Model



dered interactions with them. For instance, Lonnie's teacher may assist his mother in developing a strategy for enforcing a curfew rule. Consultation usually involves three parties: the consultant, the person who will implement the strategy (a mediator), and the target individual. Tharpe and Wetzel (1969) described the relationship among these persons in terms of a triadic model, represented in Figure 2. It should be emphasized that the relationship between the consultant and the target is indirect; direct services (e.g., training, social reinforcement, technical support) are given only to the mediator. If the consultant succumbs to the temptation to intervene directly instead of through the mediator, the mediator learns to expect the consultant to "fix" the target individual's problem behavior (Kerr & Nelson, 1983). There are three major difficulties with such an expectation. First, it would be impossible for a special educator, with classroom teaching responsibilities, to take on the additional task of providing direct services outside the classroom as well. Second, the mediator learns no new skills this way, and consequently, will more than likely return to inappropriate practices in the consultant's absence. Third, such an expectation promotes the attitude that the target individual "owns" the problem exclusively, which is much less likely to prompt needed changes in the mediator's behavior. At the same time, in order for consultation to be effective, the consultant must realize that the mediator must experience satisfaction in dealing with the problems he or she perceives.

As this description suggests, consultation is a highly systematic and technical field. I do not recommend that special educators assume a consultant role without specialized training and qualified supervision.

Collaboration

The role of collaborator is distinct from that of consultant in that assistance is not being sought by a potential mediator. Instead, it is often the collaborator who is seeking help, or, who is working in support of another professional or agency. For example, Lonnie's teacher may be expected to help him with civics assignments or to provide his probation officer with weekly reports regarding his school behavior. This role may not appear to involve responsibilities as weighty as those of a consultant, but it nevertheless can be quite difficult to fulfill, since one is working toward goals set by other persons or agencies.

Advocacy

On one level, the role of advocate involves presenting clients' needs to persons or agencies affecting them. At a more formal level, advocacy may include monitoring and attempting to change service agencies themselves. For instance, Lonnie's teacher might attempt to get school suspension policies waived in his case or plead for more lenient handling by the juvenile court. Advocacy is an extremely delicate area because client needs frequently are at odds with agency policies or practices, such as when a school is using corporal punishment, which could be psychologically damaging to a physically abused child. If a teacher advocates against detrimental practices, for services not provided by his or her employer, or creates conflict between agencies, he or she could bcome a scapegoat

(Kerr & Nelson, 1983). Consequently, professionals in advocate roles need to know their legal responsibilities and ethical limits. (Such information also is important for consultation and collaboration, of course.) Fortunately, the Council for Exceptional Children is developing a set of standards for professional practice, which will provide concrete reference points for matters of ethical conduct.

SUGGESTIONS FOR WORKING *OUTSIDE THE CLASSROOM*

Regardless of the role or roles assumed by the special educator in situations outside his or her classroom, there are a number of tactics that may facilitate the teacher's effectiveness and acceptance by colleagues. Basically, these ideas simply reflect good common sense, which many educators practice daily. But I have seen teachers render themselves less effective outside their classrooms by overlooking a few strategies that would enhance their professional and personal image. Therefore, I believe the suggestions listed below may prove useful to professionals. These are grouped into two broad categories: working within a school building and working outside the school. In either situation, there is a critical prerequisite; you must be visibly effective in your designated teaching role. That is, you cannot expect to gain credibility with professional colleagues or lay persons if you must repeatedly ask for crisis assistance, or if your students are constantly creating disturbances.

Recommendations for Working with School Personnel

1. *The special educator should be visible within the school.* I have seen too many special education teachers who confine themselves for most of the day in their classrooms. This practice does not facilitate their acceptance by other school staff and pupils, nor does it enhance the acceptance of their special education students. There are several tactics to increase your visability in the school building. First, you should *not* shirk normal teacher duties, such as bus duty, cafeteria duty, club sponsorship, chaperoning parties. Some administrators are prone to excuse special educators from these assignments because they work with pupils who are different, or because it is believed that the special teacher's job is more difficult. Such may indeed be the case, but avoiding these responsibilities only serves to alienate you from the rest of the school population.

Second, work where your colleagues can see and interact with you. It may be less productive to grade papers in the faculty lounge, but this will give you many opportunities to meet and communicate with your colleagues. Third, make your program part of the school, rather than a mysterious place where strange things go on. You can sponsor a club in your classroom, invite other staff and pupils in, host classroom parties for staff and other classes. These tactics will help overcome the stigma associated with special education, and increased contact with the regular program hopefully will demonstrate that you and your students are more like the rest of the school population than you are different.

2. *Recruit reinforcement for yourself.* It is hard to feel satisfied or successful in your work if you don't receive adequate social reinforcement. You can increase the probability of receiving social reinforcement by learning

about your colleagues, by making friends among other school staff, by appealing to their knowledge and authority, by reinforcing desirable staff behavior yourself, by enlisting the aid of staff for tasks they can perform easily, and by offering help and support to ensure their success in working with your students, or with other students who present instructional or behavior management problems in their classes. By no means should you restrict your interaction to a select group of the staff (e.g., administrators or other teachers). Janitors, office clerks, cafeteria workers, and nurses are integral and influential persons in most school buildings, and they possess many skills of potential value to you. For example, a custodian may be able to build you a study carrel; the secretary can call a parent for you; a cafeteria worker can award points to your students in the lunch room. Remember though, to reinforce all staff for their assistance. We tend to overlook the fact that the principles of behavior apply to adults as well as to children.

3. *Encourage school authority figures to reinforce your pupils and the staff who work with them.* Many students, behaviorally disordered pupils in particular, have learned to regard the principal as the school disciplinarian. Brow, Copeland, and Hall (1972), and Copeland, Brown, and Hall (1974) demonstrated that using the principal as a source of positive reinforcement is a powerful tactic for increasing desired student behavior. The principal also controls potent reinforcers for the staff, such as letters of commendation and recommendation. If you are able to enlist the cooperation and support of your principal, he or she may be a great asset to your program. Also, don't overlook other school authorities who may wield formal or informal influence over students and staff. These include vice principals and guidance counselors, as well as school office workers, who sometimes

FIGURE 3: *Consultation Agreement (Adapted from Deno & Mirkin, 1978)*

Stevens	Gast	Lonnie	9	14
Teacher	Consultant	Student	Grade	Age

Teacher Responsibilities: Observe Lonnie passing down west hall between fourth and fifth period. Note on the daily checklist provided whether Lonnie: (1) exhibits appropriate hall behavior; (2) harasses other students (name calling, verbal threats, hitting, pushing, etc.); and (3) leaves the building en route by way of the west door. Place the checklist in the principal's mailbox by 2:30 each day.

Consultant Responsibilites: Provide Ms. Stevens with a set of checklists each Monday morning. Collect checklists from the principal each afternoon and chart data.

Student Responsibilities: Exhibit appropriate behavior when passing in hall between fourth and fifth period (do not harrass other students or leave the building).

Parent/Other Responsibilities: (Principal) Obtain checklist from Ms. Stevens each day. Stop Lonnie on his way to the bus each afternoon at 3:00 and verbally praise Lonnie for a positive report. If number 2 or 3 are checked, send Lonnie to Mr. Gast's room for 30 minute's detention.

appear omnipotent in that they control important information and access to materials.

4. *Have your objectives clearly in mind for situations in whch you are requesting support or assistance from others.* This means attempting to be more specific than asking: "Will you watch Lonnie when he comes by your room on his way to gym?". Instead, indicate what the other person should watch for as well as your expectations; e.g., "Please tell me whether Lonnie harrasses other students, or whether he ducks out of the building on his way to gym." At the same time, you should be clear in communicating your expectations of others. I have found written agreements to be quite useful in this regard. For example, Figure 3 shows an agreement format designed by Deno and Mirkin (1978), on which are recorded the responsibilities for one of Lonnie's regular teachers, the special education teacher/consultant, Lonnie, and the school principal. Such agreements need not be lengthy or involved, but they should be worded in such a way that they can be evaluated accurately and objectively.

5. *Provide the structure and materials needed to increase the likelihood that a plan will be followed.* For instance, the checklist developed by Lonnie's special education teacher to monitor Lonnie's behavior in the hall is presented in Figure 4. Other examples include providing stickers or tokens for reinforcement, grade-level academic materials, or a wrist counter for tallying behavior.

FIGURE 4: *Checklist for Lonnie's Behavior in Hall*

Check if "yes" (1 cannot be checked if 2 or 3 are checked)

_____ 1. Lonnie exhibited appropriate behavior in hall.

_____ 2. Lonnie harassed other students (called names, verbally threatened, hit, pushed, etc).

_____ 3. Lonnie left the building.

Comments:

_____ _____

Date Initials

6. *Find reinforcing activities for your students around the school which involve other school personnel.* Examples include clubs, intramural sports, and art projects. These activities bring your pupils into contact with other staff and provide opportunities for positive interactions. Needless to say, you should be prepared to follow up if interactions are not positive, and you should reinforce both your students and the staff for successful encounters.

The tactics described above will help you establish yourself and your

students as a part of the school climate. To the extend that you are able to work effectively and cooperatively with others, you should find greater acceptance and support for your program.

Recommendations for Working outside the School

There obviously is much overlap between the roles and tactics used to work within a school system and those used when dealing with nonschool persons or agencies. However, several fundamental differences exist, and these call for different behaviors on the part of the special educator. A major difference is that you shouldn't expect to have any credibility with professionals or agencies outside the school, at least initially. Your credibility here must be established through your demonstrated success in meeting that professional's or agency's goals and in working with their clients. Another distinction is that your contacts with persons outside the school are likely to be less frequent and regular. This requires that you attempt to make communication clear and straightforward, and that responsibilities for follow-up be understood and appropriate commitments made. Unfortunately, except for working with parents, the special educator seldom has the authority to direct problem-solving strategies outside the schools. This means that your influence must be accomplished through skill and tact, rather than through your official role as teacher or consultant. A final difference to keep in mind is that outside the school, you are more or less on your own. While it is important to have administrative approval and support for your professional activities in the community, you cannot expect to fall back on your principal or supervisor whenever questions arise or problems come up. Therefore, it is critical to know your legal limits, and to have the knowledge and skill to function independently. These differences suggest the need for several additional guidelines.

1. *Be aware of political realities.* The major reality is that outside of the schools special education is not viewed as the salvation of children and youth exhibiting behavior disorders (Kerr & Nelson, 1983). Therefore, it would be foolish to walk into a mental health case conference with the assumption that everyone will turn to you for advice and leadership. As I mentioned earlier, you must develop your credibility in terms of what you can do to facilitate the goals of that agency or professional. In order to do this, you must learn to not make verbal commitments upon which you cannot follow through, either because you are overextended or because you simply forget your task once the meeting is over. It is very easy to make such commitments, and you probably will be reinforced for doing so at the time, but no credibility will be gained if you do not follow through.

Another political problem is likely to develop if you design an intervention for a problem behavior or situation that already is being addressed by another professional. Your intervention may conflict, either philosophically or practically, with the one being implemented by the other professional. For example, if a social worker were using nondirective counseling to reduce Lonnie's use of drugs and Lonnie's teacher set up a contingency management program with Lonnie's mother directed toward the same goal, the stage would be set for professional conflict. Situations like these are better handled through restraint and tactful negotiation; that is, give the other intervention a chance to work. If it is not successful, then obtain the

other professional's consent before implementing your strategy. Needless to say, you should endeavor to support the other intervention plan if you expect the same handling of yours.

2. *Practice underdogmanship.* Underdogmanship refers to channeling credit for accomplishments away from yourself (Stevens, personal communication). In practice, this means calling attention to what others have done to achieve desired outcomes, even though you may be almost wholly responsible for their success. If for example Lonnie's teacher developed a strategy for reducing Lonnie's shoplifting, which was successfully implemented by the probation officer, it would be prudent for the teacher to credit the success to the probation officer, especially if he were attempting to develop a good working relationship with that person.

3. *Avoid language barriers.* One factor that helps define a professional discipline is a technical vocabulary. Unfortunately, there is a tendency to use idiosyncratic jargon without regard for the audience for whom it is intended. The vocabulary of special educators is replete with technical terms and jargon: IEP, task analysis, backward chaining, life space interview, and so on. Some of these terms are all the more confusing because they have different technical and lay interpretations — the word *cue* for instance. It is best to avoid such jargon when communicating with other disciplines and instead, attempt to use terms having common meanings (e.g., reward in place of reinforcement), and terms which are less value-laden rather than those which tend to aggravate professional biases (e.g., social learning in place of behavior modification — Reppucci & Saunders, 1974).

4. *Be prepared to initiate and maintain communication with other agencies.* As Gibbins (1981) observed, "Nonschool community services may be described as uncoordinated, sporadic, and, at times, competing." While it is well beyond your power to influence this state of affairs, you can use tactics that circumvent the problems these conditions cause with respect to individual student/clients. One such tactic is to initiate formal communication for planning and services involving other agencies. For example, if Lonnie's teacher realized that the juvenile court might be able to influence Lonnie's mother to follow through on a plan to provide more regular supervision of her son, the teacher could arrange for a meeting between the child welfare care worker, the probation officer, and him/herself. It would be his/her responsibility to establish the purposes and agenda of the meeting, as well as to see that appropriate follow-up activities were performed. This does not imply, however, that the teacher exerts authority over the other professional. He/she does not, and therefore, should attempt to lead by example instead of by fiat. If you are in a similar position, you should volunteer to set up a meeting, follow-up with a parent, distribute copies of the plan agreed upon, and any other required activities. If you have demonstrated your commitment to the client, you can legitimately expect others to make similar commitments.

5. *Clarify the purposes of multi-agency involvement and of mutual responsibilities.* This recommendation appears as a common theme running through most of the previous discussion. It is very difficult if not impossible for human service agencies to work together consistently, cooperative, and effectively if their common task and lines of responsibility

are not clear. Therefore, you should try to see that client goals, intervention strategies, plans for follow-up, agency responsibilities, and timelines are specified in written form. If you have input into the format of such written communications, you may find the outline presented in Figure 3 helpful. Kerr and Nelson (1983) illustrated a variety of forms, checklists, and other formats for written communication. Such documentation also will assist you in evaluating community resources for future occasions that require services outside the educational system.

CONCLUSION

It should be apparent that activities such as I've described are not only time-consuming, but also lead the special educator into the territories of other professionals. This is why it is important to have the support of school administrators, both in terms of released time and approval to become involved with pupils outside the special class and outside the school. It also underscores the importance of recognizing the constraints on your own role, and of seeking not to overstep your boundaries. Unfortunately, few school officials or regulatory bodies recognize that practitioners serving behaviorally disordered pupils must often assume roles outside their direct teaching responsibilities. Fewer still have officially sanctioned special educators to work as consultants, collaborators, or advocates. Therefore, if you cannot perform adequately outside the classroom, either because you lack support or are overextended by unofficial role functions, it may be better not to attempt to do so at all.

However, if you decide that you can and should become involved with student progress that extends beyond your classroom, you must recognize that you are embarking on a career as a systems change agent. It is not possible to work in behalf of young persons exhibiting serious behavior disorders without observing that their microcommunities — which include human services agencies — also must do some of the changing. It is my belief that change should come from within the system of human services, both educational and otherwise. There is a great need for leadership that recognizes the problems with our current delivery systems and is willing to undertake the challenge of improving these.

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Correctional Education and Special Education — An Emerging Partnership; or "Born to Lose"

Bruce I. Wolford

There are a number of what I believe to be compelling reasons why individuals interested in the fields of correctional education and special education should form a partnership. Hopefully, during the course of reading ths article you will come to agree that such a union is not only needed and would prove mutually beneficial but also that it should be a priority for both professions.

As a point of clarification for the addition of a second title to this article, let me share with you the story of an individual who I believe was unserved, or at least underserved, by public and correctional education as well as the criminal justice systems of our nation.

The Whiz, as the young man in this story came to be known in the correctional institution where I was working as an educational counselor, gained his prison nickname as a result of his near wizzardry in the assembly, disassembly, and repair of electronic equipment. None of the school's audiovisual equipment was left unexamined. Although this self-trained technician could quickly repair nearly any malfunctioning gadget, one was never sure what added component the machine might have gained while upon the Whiz's workbench. During his 18-month stay at a medium security prison he managed to adapt every piece of the school's audio equipment so it could be quickly converted into a speaker for his beloved electric guitar.

The Whiz was clearly an individual with talents and capability for contributing to our society. So why did I meet him in a prison where he was serving a 3-to-10-year sentence for a variety of theft and drug-related convictions? The Whiz could not make it in a public school; despite his measurable potential he continued to fail. His home and family, though neither affluent nor overly supportive, was not characterized by abuse as is the case for so many institutionalized offenders.

I believe Whiz could have been classified as behaviorally disordered and/or emotionally disturbed although no formal assessment of such a condition was ever made. He failed in public school, not from a lack of capacity to learn, but rather because of behaviors that were disruptive to the

process of learning and the educational system. The Whiz was a youth of *excess*. His behavior, like his zeal for electronics, was intense and he exhibited wide swings in mood and behavior.

I recall a story told to me by a co-worker in charge of the prison's recreational services. The Whiz was the leader of an inmate rock group patterned after "The Who"—a band known as much for its flamboyant stage antics as for its hard-driving music. The Whiz, demonstrating his excessive behaviors, during long rehearsal sessions tutored his band not in playing the songs but in practicing the intricacies of jumping off the stage at the close of their concert.

To match his excesses were deficits in behavior and personal social development. The Whiz had little sense of appropriate social distance and would routinely invade the space of others around him. He had not acquired the skills of social interaction that one would expect of one his age. He had not been able to learn from appropriate models, or had not been exposed to them. He also exhibited many self-abusive behaviors and his body was marred by cigarette burns, needle tracks, and crudely applied tattoos.

The Whiz did not finish his freshman year of high school. He turned to the streets. He began to experiment with drugs. The idle time, his developing drug addiction, and circle of acquaintances helped to lead him to crime.

I have stated that the Whiz was poorly served by three very important groups—public schools, the criminal justice system, and correctional education.

The public schools labeled him as a failure and helped to devlop in him an image of himself as a reject, as someone who did not have a place in "normal" society. So he left school without the skills needed to succeed in life and, more importantly, without a sense of direction or purpose.

The juvenile and adult criminal justice systems through courts, probation programs, and prisons continued the lead of the public schools. The Whiz was never diagnosed as having a problem other than his criminal behavior and drug addiction. He was not recognized as having failed in life for a particular reason or set of reasons, but rather as a criminal who was in need of punishment and correction.

Then came the correctional educational system which did not consider what had led to the Whiz's failures. The correctional education program felt this youth needed an education and enrolled him in Adult Basic Education and General Equivalency Diploma prep. He also needed a trade so the system helped to get him into a correspondence electronics program and a vocational training course in office machine repair.

The Whiz established what has been identified by Hans Touche as a niche (Touche, 1977). He found a safe harbor at the school from the stormy climate of the prison. In this small and highly structured environment he was accepted and able to function as part of a unit. Although this niche assisted him in mental and physical survival in the prison, it is questionable whether the long term effects of such an experience were in his best interests.

Never in his progression through public schools, the criminal justice system, or correctional education had the real needs of the youth been identified. No one had really considered what had made it difficult for him to succeed.

Whiz got his GED, dropped out of vocational school, and finished his correspondence program. Soon thereafter he was released on parole. Because of his obvious talents correctional educators helped him line up a job interview with an electronics shop upon his release. By some measures Whiz was a parolee with a bright future: he had an education, a trade, and the possibility of a job.

Some who knew him were surprised when he never showed up for the job interview, and when he called the prison 8 months after his release and 6 months after he had been declared a parole violator to ask for a letter of reference and tell us how well he was doing. Some were even surprised when we heard he had been arrested and charged with another series of drug offenses coupled with violent crimes.

No one should have been surprised. The Whiz left with the same problems he had when he dropped out of public school and when he entered the criminal justice system. He lacked the life skills needed to make it on the streets. He neither understood nor did he have the skills necessary to control his own behavior.

To correctional educators, unlike many in the business of education, our failure, not our successes, come back to visit. When a correctional educator sees an alumnus, he or she (in most cases) has a new institutional number. We rarely see or hear about those who make it on the streets.

I chose to relate the story of the Whiz not because he is unique. To the contrary, he is all too typical of offenders found in the criminal justice system. There are thousands of young people and adults like the Whiz who make up the 2.2 million American under correctional supervision. (Bulletin, 1982).

Many reports document a significantly greater percentage of learning disabled adults and juveniles among incarcerated populations than exist in the general public. It is not unusual to find levels of learning disabled individuals five to seven times greater in correctional settings than the general population (Murray, 1976; Cellini, 1982). A recent study in Arizona reported that 62% of the adolescents committed to the Arizona Department of Corrections were identified as educationally handicapped (Kardash & Rutherford, 1982). Some authorities would argue that by definition all incarcerated adults and juveniles could be classified as learning and behaviorally disordered. The reported rates of Learning/Behavioral Disorders reflect the percentages among the 500,000 individuals incarcerated in our long-term correctional institutions. What are the levels of learning and behaviorally disordered among the 2.3 million citizens who are arrested each year, or the nearly 2 million individuals under noninstitutional correctional supervision (Bulletin, 1982)? And, what of the ones who got away, who never enter the criminal justice system? Last year there were over 13 million serious crimes reported in this country. In many of these cases no offender was identified and/or apprehended (Flanagan, 1982).

When juveniles and adults enter the criminal justice system their special educational needs are seldom considered in the adjudication process, in sentencing, or in the selection of various correctional alternatives such as probation and other forms of community-based treatment. In most jurisdictions at the preincarceration level little attention is given to the special educational needs of offenders. In the 900+ adult and juvenile correctional

institutions where correctional education programs have been most widely accepted the number of special educators and special education programs are limited (Flanagan, 1982). The most recent comprehensive study of correctional education found that there was an average of less than one special educator per correctional institution (Bell, 1979). When we consider that many correctional institutions house upward of 2000 inmates it is readily apparent how limited special education services have been. A more recent study in Arizona found that only 21% of those incarcerated individuals in need of special education programs were receiving such services (Kardash & Rutherford, 1982). The indication is that many individuals under correctional care are in need of special education.

What is the future of special education in correctional settings? What chance do handicapped offenders have to achieve their full potential? What could be done by developing an active partnership between correctional education and special education?

Society and its criminal justice system cannot agree on what should be done with offenders. There is a host of theories regarding the proper response to crime. For the moment, we are experiencing a resurgence of deterrent and incapicatation theories which support retribution and long term incarceration of offenders. There are some indications that repeated offenders can be identified at a relatively early stage in their criminal careers and that removal of these individuals from society may be effective in these specific cases (Petersilia, 1981). There is, however, little hard data to support the notion that a deterrent effect can be related to establishing stiffer penalties for violent crimes.

This nation is in the middle of one of the greatest booms in prison construction in its history. We can also expect to witness the most extensive use of capital punishment in this century unless some unforeseen intervention occurs to prevent the execution of the over 1000 men and women who are on death rows in this country today (U.S. Department of Justice, 1980).

For one, like myself, who subscribes to the "capacity theory" which maintains that new prison cells will be filled and remain filled regardless of the crime rate and/or the need for incapacitation, and who believes that it is the responsibility of society to provide offenders with viable opportunity to change their own behavior, the current status of our nation's response to crime is frightening.

I am convinced that in most of our correctional systems education is the only viable opportunity available for most offenders to seek change. Education programs for offenders are the only change oriented endeavors that have increased or at least held their own in most correctional institutions. I also hear from heretofore silent corners, i.e., U.S. Supreme Court Chief Justice Burger's strong support for educational programming and his renunciation of the mere warehousing of offenders. In a speech before the American Bar Association the Chief Justice strongly urged that all inmates have the opportunity to leave prison with a marketable job skill. He even proposed mandatory education programs and called for credit against one's sentence for educational progress (Burger, 1981). The impact of his speech has already been felt in the Federal Bureau of Prisons where mandatory education for individuals who test below established grade levels has

been instituted. These and other signs suggest a bright future for correctional education. I believe there are three primary areas where a partnership between correctional education and special education has the greatest potential for growth and success. These are in our courts and probation programs, in correctional institutions, and in the development of state education policy and federal and state legislation and regulations.

The adult and juvenile courts of this nation are involved daily in prescribing sentences for criminal offenders. These sentences are nearly always preceded by individual evaluations, known as social histories or presentencing investigations. Rarely have I seen judges provided with the type of information developed through the learning and behavioral assessments so common in special education. Judges are making decisions that shape the future for many individuals without the benefit of valuable information available from special educators.

I would like to see the development of linkages between the courts and special educators. These linkages could not only provide valuable information and knowledge of assessment techniques to the courts and probation agencies, but could also help special educators understand and appreciate what may face the students that enter the criminal justice system. How many special educators understand the criminal justice system and can act effectively as advisors or advocates for their students who run afoul of the law?

Effective linkages between the courts and special educators cannot be formed out of crisis, but need to be developed over time so that both parties can gain an appreciation of the problems and capabilities of the other. If the special educator waits until a student is in trouble with the law to establish a linkage with the courts and probation department, I fear the youth's special needs will go largely unconsidered and that no lasting relationship will have been established.

The second area in which cooperative efforts appear most feasible are in the nation's correctional institutions (prisons, jails, juvenile detention facilities, and smaller community based programs). There is a pressing need for more special educators in our adult and juvenile facilities and there must be far greater utilization of special education approaches to teaching and assessment in the field of correctional education. There are presently only a few college preparatory programs in this nation for correctional education. There needs to be an integration of correctional education information into the curricula of teacher preparation programs. Inservice and preservice teachers should know both about correctional education and the criminal justice system which affects their students. I would like to see teachers made aware of career opportunities in correctional education. Special education certification guidelines in many states require students to take extra course work above and beyond the minimum number of hours needed for graduation. Despite the present requirements I urge colleges and universities to encourage and/or require their students to enroll in at least a basic criminal justice survey course which would familiarize them with the police courts, probation, and other correctional systems with which we expect them to interact. There also needs to be further examination and consideration of the linkage between learning/behavioral disorders and juvenile delinquency and other criminal behavior. Our college and univer-

sity preparatory programs and educational researchers must take a lead in this area.

Finally, special educators and correctional educators should join efforts in the all-important areas of legislative lobbying and policy/regulation development. Decision makers considering vitally important measures such as new regulations concerning P.L. 94-142 should be made aware of the needs of correctional education.

I am encouraged by the recent interest in correctional education by the Office of Special Education. I look forward to seeing what direction the U.S. Department of Education takes in relation to correctional education and the recent establishment of a corrections desk within the department.

I urge special educators to lend their support to Senator Claiborne Pell's Senate Bill 2804, the proposed Correctional Education Assistance Act. Senator Pell in his remarks before Congress clearly identified the need for such legislation. In the United States today about $6 billion a year is spent to incarcerate offenders. On average, this totals nearly $13,000 per inmate per year, which represents 2.5 times the average cost of sending a young person to college. But very little of this huge expenditure is directed toward educational services. Over 80% goes to custody/security, whereas in state correctional systems the average educational expenditure represents only 1.5% of the total budget.

The Correctional Education Assistance Act would provide $25 million per year of direct federal support for correctional education. The funds would be distributed on an inmate per capita basis with a guaranteed $100,000 for each state. The funds could be utilized for a variety of programs including special education, teacher training, guidance and testing services, as well as job placement (Pell, 1982).

Correctional education must have the support of large groups such as special educators. There are relatively few correctional educators in this country; they represent a constituency that has no clout. It is difficult to imagine a less influential group than criminal offenders, particularly those incarcerated. We have long suffered from the condition known a the Principle of Less Eligibility which maintains that offenders are the citizens least eligible for services and support in our society. In current recessionary times the truth of this axiom is clearly apparent.

The partnership between special education and correctional education can provide benefits for both groups. Special educators characteristically care strongly about others and are particularly concerned about their students and others with special needs. As I noted earlier more and more of our citizens are entering the criminal justice system and finding their way into correctional settings. Some significant number of these individuals have special education needs which are not being identified and addressed. The emerging partnership between the two groups can provide special educators with the knowledge of the criminal justice system, skills to assist their own students, and a far greater assurance that special education needs will be met in the correctional setting

To conclude let me return to the story of the young man I described earlier. The Whiz did not make it. I chose to use his story because he exemplifies the individual with problems we know require a great deal of attention to resolve. What made the Whiz memorable to me was not only his

unique skills and special needs but also the tattoo on his arm. As you may know tattoos adorn the shoulders and forearms of many men and women who inhabit our correctional institutions. The Whiz had a tattoo. He had identified himself as "Born to Lose" and he had been willing to announce it to the whole world. The irony of the situation was that the Whiz, through his statement of hopelessness, had inadvertently made an even more telling statement. He had not been able to communicate even this most basic message. Whiz, or his tattoo artist, had misspelled "lose." He will forever pronounce to the world that he is "Born to Loose."

I am hopeful that through cooperative efforts between special education and correctional education many individuals with special needs in our nation's prisons and under other forms of correctional supervision will not reenter society with the belief that they were BORN TO LOSE.

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Naturalistic Observation of Teacher Verbal Behavior in Classes for the Learning and Behavior Disordered

Robert A. Gable, Jo Mary Hendrickson, and Clifford C. Young

Researchers have long sought to identify performance standards that define teacher effectiveness. Attempts to isolate specific competencies have led to the validation of a limited number of teaching acts (e.g., Shores, Roberts, & Nelson, 1976). A growing body of literature supports the view that experimentally manipulated teacher verbal behavior is a potentially powerful tool for modifying pupil behavior (Cantrell, Wood, & Nichols, 1974; Fink, 1972; Shores & Stowitschek, 1978; White, 1975). The positive influence of praise statements on academic performance (e.g., Becker, Englemann, & Thomas, 1978; Broden, Beasley, & Hall, 1978; Gable & Shores, 1980; Lovitt & Curtiss, 1968), and classroom conduct (e.g. Gable, Strain, & Hendrickson, 1979; Madsen, Becker, & Thomas, 1968; Thomas, Becker, & Armstrong, 1968; O'Leary, Kauffman, Kass, & Drabman, 1970) is well documented. Understandably, the use of praise has gained wide acceptance as a core competency for teachers of the learning and behavior disordered (e.g., Blackhurst, McLoughlin, & Price, 1977; Shores et al., 1976). Still, scant information is available on the existing rate(s) of teacher verbal behavior in LD/BD classrooms. Whether or not LD/BD teachers are actually applying empirically-supported tactics, such as praise statements, is yet to be determined (Strain & Kerr, 1981).

The purpose of the present study was to document the use of approval and disapproval statements in relationship to academics and classroom conduct by teachers of learning and behavior disordered youngsters. The study was designed to add to the current literature in several areas. First, by studying teacher consequation patterns, clues to resolving a range of classroom problems (e.g., underachievement, oppositional responses, skill deficits) (White, 1975) may be provided. Second, the extent to which such documented strategies as contingent praise are practiced in applied settings is largely unknown (Strain & Kerr, 1981); nor is it clear whether the use of praise or criticism is distinguishable according to the level of instruction (i.e., primary versus intermediate) (Thomas, Presland, Grant, & Glynn, 1978). In all, the findings of this investigation may contribute not only to

This study represents a portion of a larger investigation of Teacher Planning and Teacher-Pupil Interactions Across Categories of Exceptionality funded by the U.S. Office of Education, Bureau of Education for the Handicapped, Grant No. 443AA70012.

knowledge of existing classroom practices but also cast light on the durability of selected elements of pre- and inservice teacher training programs for LD/BD teachers.

METHOD

Participants and Settings

Participating on a voluntary basis, and naive to the specific intent—the precise behaviors to be observed, 34 teachers comprised the sample for this study. These teachers were selected from a general population of self-contained special education teachers serving children classified as learning and behavior disordered. Teachers were subgrouped according to level of instruction. Teachers using K-3 grade equivalent materials were considered to be primary level teachers (n=18). Teachers using 4-6 grade equivalent materials were grouped at the intermediate level (n=16). The mean number of pupils being taught during direct classroom observation was 7.7, with a range of from 2 to 13 pupils.

The study was conducted in special education classes situated in public and private school settings and in regular elementary schools. Classrooms were located in and around Nashville and Chattanooga, Tennessee. They represented rural, suburban, and urban demographic locales.

Observation and Data Collection

Data collected in this investigation were obtained through classroom observation of two categories of teacher verbal behavior: (a) consequation of pupil academic responses, and (b) consequation of classroom conduct. Data on teacher consequation of academics were gathered via a recording system that contained 30 10-second intervals (5 minutes). Every 10 seconds, data collectors were cued through an earphone by a prerecorded cassette tape to observe pupil responses and then record each immediate (within 5 seconds) teacher statement as positive or negative. Teacher consequations of academic responses were recorded during three separate 5-minute sessions. The two categories of teacher statements on academic performance were defined as follows:

Positive Statements. The teacher praises or rewards the child/children's academic performance. For example, the teacher says: "Good reading, Bill", or "Great, Sandy, your addition answer is right again!"

Negative Statements. The teacher makes a critical or otherwise negative comment regarding a child/children's academic performance and does not provide corrective feedback on how to change his/her response(s). For example, the teacher says: "No, Fred, that's wrong"; or, "No, you still can't add, can you?"

The second interval system was designed to capture teacher approval and disapproval statements directed toward youngsters' classroom conduct. As before, data collectors were cued via a prerecorded cassette tape to record each instance of teacher behavior.

For observations of teacher consequation of classroom conduct, data collectors observed and recorded the frequency of teacher approval and disapproval responses to youngsters' classroom conduct on a data sheet divided into 30 10-second intervals. Each 10-second interval was sub-

divided into two cells, one for marking positive and the other for marking negative statements. As before, a tape recorder was used and observers marked the occurrence of either an approval or disapproval statement by placing a slash in the 10-second interval in which the behavior was observed. Teacher approval and disapproval statements were observed and recorded during two 5-minute sessions separate from those conducted on academic behavior. Definitions of teacher positive and negative statements directed toward childrens' classroom deportment are given below:

Positive Statements. The teacher praises or "rewards" the child/-children's classroom deportment. For example, the teacher says, "I like the way Bob raised his hand"; "Good Jean, I'm glad you are watching me"; or "I like the way each of you is waiting patiently."

Negative Statements. The teacher makes a critical comment, one that is clearly negative and intended to express disapproval of classroom deportment. For example, the teacher says "Stop talking"; "I'm getting tired of waiting for Jean to stop looking out the window!"; or "Everyone had better be quiet, and I mean it!"

Procedure

For all observations, data collectors were positioned no further than 6 meters from the activity being observed. Observations of teacher positive and negative statements occurred during pre-academic or academic instruction periods spanning a minimum of 30 minutes. Group instruction periods involving two or more students were observed. To control for the instructional task being observed, a specific time when teachers indicated they would be involved primarily in direct instruction was used. Observations of teacher positive and negative statements regarding classroom conduct were obtained under conditions identical to the observations of teacher positive and negative consequation of academics. During inter-observer agreement checks, each observer was cued with the same cassette tape recorder by means of a twin-adapter with two earphones. In all, a total of 15 hours of direct observation data were obtained on teacher consequation.

Design and Data Analysis

The research design employed in this investigation was a 2-way factorial design (Winer, 1971). The number of intervals of positive and negative teacher feedback for academic behavior and classroom conduct were assessed using *t*-tests (Spence, Underwood, Duncan, & Cotton, 1968).

Observer Training and Reliability Procedures

Four college graduate students served as data collectors. Observers were trained prior to formal data collection through three training formats. First, observers viewed and practiced the recording of teacher behavior on videotape segments of teacher-student interactions during small group instruction. Second, live simulations of small group instruction were observed as part of the training process. Finally, direct observation of teachers not included as part of the voluntary sample provided the conclusion of observer training. A criterion of 85% agreement across three separate

observations was established for all observers before they were allowed to collect data on teachers involved in this investigation. The basis for agreement for each interval system was both observers recording an occurrence of positive (or negative) consequation in the same 10-second interval. Each 10-second interval provided the basis for agreement or disagreement in which two observers had to record the same behavior in the same cell to be counted as an agreement. Instances in which no behavior was recorded in a cell were not included in determining interobserver agreement. Interobserver agreements were calculated by dividing the number of intervals or cells of agreement between observers by agreements plus disagreements, then multiplying by 100. A minimum of 25% of classroom observations included interobserver agreement checks.

RESULTS

Interobserver Agreement

A total of 24 interobserver agreement checks were conducted during direct observation (28.7% of the observations). Interobserver agreement ranged from 91 to 95%, with a mean of 93% for positive and negative feedback directed toward academic behavior. A total of 24 interobserver agreement checks (28.7% of the observations) were conducted during observation of teacher positive and negative feedback statements for classroom deportment. Interobserver agreement ranged from 98 to 100%, with a mean of 99.5%.

Teacher Positive and Negative Statements on Academics

T-tests revealed no significant differences as a function of the level of instruction. A mean rate of .41/minute positive statements and a mean rate of .06 negative statements for teachers during academic instruction were obtained (see Table 1). The ratio of positive to negative consequences was 7.14:1.

Teacher Positive and Negative Statements on Classroom Conduct

T-tests revealed no significant differences as a function of the level of instruction. The mean rate of approval statements was .05/minute, while the mean rate of disapproval statements was .11/minute for teacher responses to classroom deportment (See Table 1). This is a ratio of 2.08:1 disapproval statements to approval statements.

DISCUSSION

The present study replicated findings of previous investigators but conflicted with others who have examined teacher use of approval and disapproval statements (cf. Bryan & Wheeler, 1976; Fink, 1972; Thomas et al., 1978). Results of this study showed that LD/BD teachers appear to have learned to discriminately consequate academics as evidenced by the delivery of over seven times as many approval as disapproval statements for children's academic performance. These results are encouraging since Cantrell et al. (1974) have documented that teachers who initiate more frequent praise than criticism produce higher achieving students than

TABLE 1

Mean Rate of Teacher Responses According to Level of Instruction

	N	$\bar{x}$	SD	Range	Mdn
Positive Statements for Academic Performance (15 min.)					
t=0.967 (ns)					
Primary	18	7.055	6.835	0-28	5.5
Intermediate	16	5.000	4.886	0-14	3.5
Negative Statements for Academic Performance					
t=-.579 (ns)					
Primary	18	0.667	.882	0-3	0
Intermediate	16	1.063	2.657	0-11	0
Positive Statements on Classroom Conduct (10 min.)					
t=1.627 (ns)					
Primary	18	1.222	2.123	0-7	0
Intermediate	16	0.313	0.465	0-2	0
Negative Statements on Classroom Conduct					
t=.964 (ns)					
Primary	18	2.055	2.297	0-7	1
Intermediate	16	1.188	2.789	0-11	0

teachers demonstrating low praise or more criticism than praise. A comparison of negative statements for academic performance and for classroom conduct is also heartening because of their relatively equal and low rate of occurrence (i.e., .05 and .11 per minute, respectively). However, there is a major discrepancy when one similarly compares the rate of positive consequences for academic performance (.41/minute) with positive consequences for classroom deportment (.05/minute). Shores and Stowitschek (1978) reported that for small group instruction teachers should provide praise statements at a minimum rate of 2/minute, and that a 5:1 ratio of praise to criticism should be maintained to avoid the so-called "criticism trap" (Becker et al., 1978).

Evidence that LD/BD teachers—primary and intermediate—may engage in a reasonable rate of praise for academics but limit the use of praise for classroom conduct is of concern. The lack of congruence between praise administered for academic performance and for classroom deportment is curious, and difficult to interpret. By comparison, Thomas et al. (1978), closely replicating earlier research on 1st to 12th grade teachers (White, 1975), found that regular 7th grade teachers initiated an average of 0.2/minute praise and 0.58/minute criticism statements. It may be that neither primary nor intermediate level LD/BD teachers deem appropriate conduct worthy of positive recognition (Thomas et al., 1978). Another possible explanation is that observing and responding to inappropriate classroom behavior is more immediately reinforcing to the teacher (Cantrell et al., 1974). Antecdotal records of data collectors indicated that teachers were inclined to respond to rather than ignore episodes of noncompliance. In any event, while results suggest teachers do consequate academics, they also add further credence to Bryan and Wheeler's (1976) assertion that LD/BD teachers do not engage in a pattern of classroom behavior that shows they differentially reinforce desired classroom conduct.

Taking a broader view, teacher training programs have been criticized for providing a stimulus for acquisition of selected teaching skills without regard for consequences — the application of those skills in applied settings. One might argue that the relative absence of praise statements by classroom teachers reported in this and other investigations (e.g., Thomas et al., 1978; White, 1975) is linked to a "naturally occurring" extinction process. Assuming that training institutions are able to successfully promote the acquisition of skills judged to constitute teacher competency (e.g., use of verbal reinforcements), then the onus of responsibility should shift to the practitioner to maintain skills, and supervisory personnel to more directly and systematically observe classroom behavior, and manipulate contingencies (e.g., consult on use of precise praise with behavioral rehearsal, self-recording, or corrective feedback) according to teacher performance.

Several factors may limit interpretation of this study. First, the samples of teacher verbal behavior are limited. Second, there is the possibility of teacher reaction upon being observed. Still, this investigation appears to indicate that teachers are likely to differentially reinforce academic behavior, but not respond discriminately to classroom conduct. Assuming this observation is reasonably representative, it seems ironic that for students with a history of frustration and failure a proven strategy for managing

inappropriate classroom behavior—namely, verbal praise—is rarely applied.

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Aversiveness and Frequency of Use of Commonly Used Interventions for Problem Behavior

Frank H. Wood and Bradley K. Hill

The aversiveness of common interventions for problem behavior and the frequency with which teachers use them have been one focus of an ongoing investigation of interventions commonly used by teachers working with behaviorally disordered/emotionally disturbed students.

The literature on this topic is limited. Kazdin and others (Kazdin, 1981; Kazdin, French, & Sherick, 1981) have conducted several studies in an experimental format looking at the acceptability of alternative treatments for children. Their methodology was the presentation of descriptions of cases through audiotapes. Child psychiatric in-patients, parents, and staff were asked to identify their choice among four alternative interventions: positive reinforcement of incompatible behavior, timeout, positive practice, and medication. Measuring good-bad, potency, and activity dimensions using a Semantic Differential procedure (Osgood, Suci, & Tannenbaum, 1957), Kazdin et al. (1981) ranked their four interventions in an ordering that may be related to their perceived aversiveness. In general, this ordering (low to high) places reinforcement first, followed by positive practice, medication, and timeout.

Witt, Elliott, and Martens (1982) have conducted research with preservice teachers using a methodology similar to that of Kazdin et al. (1981) seeking to determine the acceptability of behavioral interventions used in classrooms. Based on their review of the literature, Witt et al. (1982) preclassified possible interventions in terms of type (positive: praise, home-based reinforcement, token economy; negative: ignore, response cost, seclusion timeout) and amount of teacher time required (ordered above from low to high in estimated time requirement). They found that acceptability is not a unitary concept. Teachers making decisions about the acceptability of interventions in their study appeared to consider at least five dimensions: general acceptability, risk, teacher time required, effects on other children, and teacher skill required. Positive interventions (i.e., those reinforcing appropriate behavior) were rated more acceptable than negative interventions (i.e., those punishing inappropriate behavior). Interventions requiring less teacher time were rated more acceptable than those requiring much time. General acceptability and risk to the chid emerged as major factors in teacher ratings.

The present study focused on general beliefs about the aversiveness of commonly used interventions, making no prior assumptions about their relative aversiveness. While teachers are undoubtedly influenced in their choices of interventions to be used in specific cases by the characteristics of the individual children involved, the findings of Witt et al. (1982) suggest that general beliefs about acceptability and risk to the child are major considerations. The assumption underlying the present investigation is that educators hold general beliefs about the relative aversiveness of interventions commonly used in classrooms which are sufficiently independent of their predictions of their effectiveness and appropriateness when applied to individual students to be measurable. Information about these general beliefs should help practitioners estimate the probable acceptability of proposed interventions and provide researchers with an empirical base for designing further research.

METHOD

For the present study, the authors developed a list of 30 commonly used interventions drawing on their own experience, the literature (e.g., Wood, Spence, & Rutherford, 1982), and input from teachers. These interventions were randomly ordered and brief exemplifying definitions were provided for each. A questionnaire was constructed on which respondents were requested to rate each intervention's aversiveness (unpleasantness) and the frequency with which they used it. The questions asked about aversiveness were: "How unpleasant or aversive do you feel the response procedure described is to most students? Your rating should reflect your feeling about the general aversiveness of the procedure rated." Aversiveness was rated on a scale from low (1) to high (5). For frequency of use the questions were: "How frequently do you *use* a particular response to problem behavior? Your rating should reflect the total use you make of a procedure as you respond to all students." The points on the 7-point scale for rating frequency ranged from frequently used (1) through 2-3 times each day (2), 2-3 times each week (3), weekly (4), monthly (5), 1-2 times each year (6), to never used (7). (A copy of the questionnaire can be obtained from the first author.)

Respondents

As of December 1982, the questionnaire had been completed by 156 respondents enrolled in five different classes concerned with the management of problem behavior in the classroom. Of those from whom identifying information was available (N=138), 59% were special education teachers, 28% regular education teachers, and the remaining 13% administrators, social workers, psychologists, and parents.

Not all of the 156 respondents rated each intervention. The number of respondents to each of the aversiveness rating scales varies from 138 to 156 with a mean N of 150. For the frequency of use rating scales, the mean N is 148 with a range of 104-151. Item 30 on the questionnaire — "refer student for placement in in-school suspension" — is an exception. This item was added following the first two administrations of the questionnaire at the suggestion of respondents who reported this to be a common intervention

in their schools. For this item, the *Ns* are 96 for the averiseveness rating and 102 for the frequency of use scale.

RESULTS

The number of persons responding to each scale, scale means and standard deviations, and rank order of items by group means are shown in Table I. Higher mean scores on the aversiveness scale indicate higher perceived aversiveness, and the aversiveness rankings are from low (1) to high (30). Higher mean scores mean low frequency of use, and the rankings are from high use (1) to low use (30). The rank order correlation between aversiveness and frequency of use is .84 ($p<.01$), indicating more frequent use of interventions perceived to be lower in aversiveness and vice versa.

The questionnaire scales show a high degree of commonality. Alpha coefficients are .84 for both the aversiveness and frequency-of-use scales. To obtain an indication of stability of response, the questionnaire was readministered at an interval of one week to two groups of subjects. Again, the number of respondents to each item varies (*Ns*:52-57). The mean test-retest correlations for single items were .61 for aversiveness (range:.34-.94) and .66 for frequency of use (range:47-.94). Because of the discrete, "gapped" nature of the scales, 1-2-3 . . . with no intermediate points, differences of only one point on a test-retest comparison tend to be exaggerated. The items eliciting more stable responses are being used in further research. Information on individual item reliability can be obtained from the authors.

A factor analysis of the aversiveness questionnaire items (principal factor with iterations procedure) yielded two large factors of 16 and 12 items respectively, and a smaller cluster including the remaining two items. The larger cluster, which has been labeled "mild interventions," included those verbal and nonverbal interventions that tended to be rated lowest in aversiveness. In order of the factor weightings, these were: verbal prompt (17), verbal counsel (26), move closer (9), signal stop (22), reinforce other (6), positive touch (15), move student (3), verbal praise to other (19), model desired behavior (29), change room (25), verbal encouragement (21), call attention to rules (8), recognize negative feelings (20), promise reward (23), change task (1), and permit problems (3). The second factor, labeled "strong interventions," includes interventions that were clearly more aversive, often characterized by direct physical interference with students' liberty or freedom of movement. In order of their weightings, these interventions were: in-school suspension (3), call police (18), call parents (10), send to office (24), take away possessions (5), apply response cost (14), timeout in room (16), seclusion timeout (7), paddle (13), shake (27), physical restraint (3), and timeout at place (28). The remaining two items, verbal reprimand (11) and verbally threaten (4), clustered together in a factor which can be labeled "strong verbal interventions." When forced, these two items clustered in the lowest quartile of the second factor, "strong interventions."

An analysis comparing responses of regular and special education teachers showed a number of significant mean differences in reported frequency of use. Those comparisons in which special education teachers report using interventions more frequently than regular education teachers are as follows: change task ($p<.02$), seclusion timeout ($p<.04$), call parents

($p<.001$), promise reward ($p<.001$), verbal prompt ($p<.02$), call police (p .05), verbal praise to other ($p<.05$) verbal encouragement ($p<.03$), and model desired behavior ($p<.03$). Regular education teachers reported that they sent students to the office or detention more frequently than special class teachers ($p<.02$). Mean differences with a probability less than .05 were found for only one intervention on the aversiveness scales — reinforce other student ($p<.02$). All of the reported probabilities are based on a two-tailed test of the t statistic.

DISCUSSION

High aversiveness was related to low frequency of use in this population, although considerable variation among individuals was noted. The interventions seemed to cluster as two major factors, a "mild" factor which includes interventions that tend to be more verbal and indirect than those clustered in the "strong" factor. A weak third factor, including two interventions that were "strong" but verbal, also was found. Do teachers tend to "shift gears" when intervening, moving from use of a mild combination of interventions to use of a combination of strong interventions when the former prove ineffective? Perhaps future research will help us answer such questions.

While it is inappropriate to attempt much interpretation of the mean differences in reported frequency of use between regular and special education teachers without additional information, it seems reasonable to hypothesize that many result from differences between the resources for intervention available to special teachers in contrast to regular teachers and the more serious problem behavior with which special teachers are dealing. Thus, special education teachers more frequently have facilities designed for the use of isolation or seclusion timeout, preplanned arrangements with parents to come pick up students who cannot be managed in school, and experience with the use of police when aggressive, assaultive behavior *must* be controlled. Regular educators, lacking such a range of options, more frequently use the school office or detention as a means for managing students whose behavior is disruptive. The finding that only one of 30 comparisons of mean perceived aversiveness was significant, a finding that may be due itself to chance factors, lends support to the assumption that there are generally held views on the aversiveness of interventions which are independent of their frequency of use and effectiveness in specific situations.

The results from exploratory use of this interventions questionnaire are useful as a check against individual perceptions of the aversiveness of interventions commonly used in programs for the education of behaviorally disordered/emotionally disturbed students and as a reminder of the diversity of view on this issue. We plan to use a revised form of the questionnaire in studies of individual and role group variations in perceptions of the aversiveness of interventions and reports on the frequency of their use. Questions that are of interest include: What range of differences in perception exist among the staff members of a single special program? Are these differences related to differences in observed teacher behavior? How do ratings by students themselves (on a modified questionnaire) compare with those of parents and teachers? How do ratings by individual students relate

TABLE 1

Aversiveness and Frequency of Use of Interventions

Item	Aversiveness				Frequency of Use			
	n	Mean	SD	Rank (L-H)	n	Mean	SD	Rank (H-L)
1. Change task assigned to student.	151	1.56	.92	2	146	3.22	1.52	12
2. Physically restrain, push, or hold student firmly.	152	4.36	1.04	25	151	5.75	1.29	24
3. Permit problem behavior to continue without responding directly ('planned ignoring').	154	2.05	1.16	14	149	2.61	1.48	8
4. Verbally threaten student with punishing consequences.	155	3.30	1.05	18	150	3.94	1.41	15
5. Take away objects, materials, etc., owned or in use by student.	155	3.31	1.29	19	148	4.16	1.51	17
6. Reinforce *another* student(s) who is behaving as desired with materials, tokens, or points.	154	1.96	1.15	12	150	2.60	1.73	7
7. Require student to do timeout in special isolation room.	151	4.05	1.01	24	148	5.49	1.58	23
8. Verbally call attention to previously discussed rules, objectives, or expectations.	156	1.93	.94	11	151	2.63	1.25	9
9. Move closer to student whose behavior is disturbing ('proximity control').	156	2.03	1.20	13	151	2.19	1.20	2
10. Require parents to come and remove student or send student home.	145	4.54	.90	27	149	6.54	.82	28
11. Verbally reprimand or criticize student's problem behavior.	153	3.60	1.08	21	150	4.11	1.42	16
12. Promise reward for desired behavior.	153	1.67	.98	4	150	3.19	1.63	11
13. Paddle or switch student on buttocks or legs.	147	4.78	.76	29	150	6.98	.14	30
14. Take away previously given material reinforcements, tokens, or points ('response cost').	150	3.77	1.14	23	150	5.41	1.75	25
15. Touch student with positive intent.	150	1.58	1.01	3	148	2.27	1.49	4

TABLE 1 (continued)

Item	Aversiveness				Frequency of Use			
	n	Mean	SD	Rank (L-H)	n	Mean	SD	Rank (H-L)
16. Require student to do timeout at special timeout area in the classroom.	149	3.40	1.20	20	147	4.46	1.79	19
17. Verbally cue, prompt, or redirect student behavior.	153	1.71	.89	6	150	2.00	1.19	1
18. Request police to come to school to remove student.	138	4.78	.74	30	147	6.90	.35	29
19. Verbally praise behavior of *another* student who is behaving as desired.	152	1.92	1.15	10	151	2.50	1.68	5
20 Verbally recognize negative feelings inferred from observing student's behavior.	143	2.18	1.13	15	140	3.74	1.54	13
21. Verbally encourage desired behavior ('pep talk').	154	1.70	.97	5	151	2.55	1.50	6
22. Using gesture or verbal alert, signal student to stop disturbing behavior.	152	1.73	.88	7	149	2.20	1.20	3
23. Change student's place in classroom.	151	2.36	1.19	16	151	4.23	1.52	18
24. Require student to go to school office or place of detention.	148	4.05	1.00	23	151	5.80	1.08	25
25. Change classroom physical environment by moving chairs, tables, screens, etc.	152	1.80	1.01	8	150	4.97	1.62	20
26. Verbally counsel or discuss problem behavior with student(s) ('life space interview').	150	1.92	.97	9	150	3.89	1.61	14
27. Vigorously shake student or tightly squeeze flesh (arm, ear, neck, etc.).	148	4.59	.85	28	151	6.23	1.19	26
28. Require student to do timeout at present place.	145	3.07	1.04	17	141	5.09	1.70	21
29. Model desired behavior for student.	147	1.50	.88	1	148	3.10	2.14	10
30. Refer student for placement in in-school suspension.	96	4.38	1.00	26	102	6.37	1.12	27

to their responses to specific interventions as observed directly?

The latter question focuses on the issue of effectiveness. Some of the investigators cited earlier are exploring this question in experimental situations. It is our bias that the issue of effectiveness is an empirical one and can most meaningfully be studied in field situations where attention can be given to pronounced individual differences in responsiveness to different interventions. We hope to explore this question further in the future.

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Training Teachers of Emotionally Handicapped Children: Priorities Identified by School Practitioners

David M. Lutkemeir

ABSTRACT

Much has been written about the status of teacher training as it is perceived by teacher trainers and administrators at state and local levels. The purpose of this paper is to present the programmatic concerns of school practitioners engaged in direct service with the school-age emotionally handicapped population. Three major aspects of teacher training were addressed in a survey instrument distributed to school practitioners in ten school districts and two private school programs for emotionally handicapped students. The three training-program components of interest were: The adequacy of 4-year university-based training programs, the course content of professional preparation classes, and the nature and proper extent of preservice field experience. Results compiled from 224 respondents indicated an even division of opinion concerning the adequacy of 4-year preparation programs, strong support for additional coursework in practical "methods" courses, and very strong support for increased and otherwise intensified preservice field experience. The latter two finding were consistent with previous studies indicating practitioner emphasis on the more pragmatic or atheoretical components of teacher training programs.

At a time when it is most important that schools and the university training programs serving them compete effectively with other social agencies for limited funds at all governmental levels, the collaboration between these interdependent social institutions remains superficial (Howey, Yarger, & Joyce, 1978). Public schools are undertaking more responsibility for the preservice clinical training of student teachers (Stiles, 1971), but cooperating teachers receive little assistance or preparation from the university (Howey, Yarger, & Joyce, 1978), and training criteria for college supervisors is suspect as well (Bowman, 1978).

The apparent disunity of effort does not appear to be due to recalcitrance on the part of training program personnel or the practitioners but to a rather different set of external pressures operating on schools and teacher training institutions. Partly as a result of the necessarily pragmatic orientation of schools, many practitioners attach little importance to those training program components dealing with research and theory and often do not value

the teacher trainers' approach to practical "methods" content. According to Pigge (1978) teachers report personal experience as their primary source of knowledge about teaching.

Howsam (1981) suggests that practitioners' failure to acknowledge the value of research and theory plays a significant role in inhibiting the development of teaching as a profession. To help remedy the situation, Howsam proposes extending training programs for teachers. These extended programs would include a more substantial liberal arts base and a professional training core providing a more thorough foundation in the principles and theories of the profession.

The fact that many practitioners tend to focus on immediate and pragmatic concerns is no doubt due in part to political and professional realities such as the increasingly frequent call for teacher accountability in the public schools. Related to this is the growth of state competency tests for preservice students prior to teaching certification. Such testing may represent public dissatisfaction with teacher training programs or lack of confidence in the teachers trained in these programs.

Once teachers enter the field, their appreciation of important university contributions such as research appears not to improve. A probable factor in teacher rejection of university research is the frequent lack of congruence between research topics and the educational issues viewed as important by practitioners (Medley, 1977). A number of suggestions have been made concerning the establishment of meaningful research and program links between field practitioners and researchers associated with the teacher training programs. Garland (1982) proposes more involvement of practitioners in goal setting and implementation of educational research in order to gain their acceptance of research in general. Drummond (1978) suggests school district participation in the development of field-oriented and competency-based preservice programs. Useful directions for improved practice exist, but much progress needs to be made.

Another focus of university training has been on theory, yet this may be no better received than research. In an investigation of the theoretical focus of school programs for emotionally handicapped (EH) students compared to the training orientations of university teacher training programs for teachers of the emotionally handicapped, Kavale and Hirshoren (1980) found little similarity in orientation. Evidently school and university perception of training needs is no more congruent in special education than in general education. Kavale and Hirshoren conclude their study with the following:

> Schools of education have little reason for existing beyond that of improving the quality of public education by producing professional, competent teachers. But it appears that all too often universities have isolated themselves from the public school and have developed and perpetuated TEP with little relevance to the pragmatic needs of the curricular and orgnizational patterns found in public school BD programs. (p. 154)

During the fall semester of 1982, a redesign of the preservice teacher training program of the Arizona State University Department of Special Education was completed. A purpose of this study was to gauge reaction of practitioners in the emotionally handicapped area to the newly enhanced

field orientation and cross-categorical methods component of the revised program. More generally, practitioners in the schools were also asked to assess, from their own experience, university-based teacher training programs as an approach to the preparation of EH teachers.

METHOD

To determine what practitioners involved in the education of emotionally handicapped students thought about several training program practices, a questionnaire was constructed and distributed to ten school districts and two private programs that serve this population. With the aid of district office personnel, questionnaires were then distributed to individual teachers and other professional staff working directly with emotionally handicapped students. The survey packets consisted of a cover letter explaining the purpose of the survey, a demographic data page, and three pages of multiple choice and short answer questions concerning the issues under investigation. In order to increase the return rate, a stamped, self-addressed return envelope was provided with each survey packet. Survey participants were not asked to identify themselves by name; thus a follow-up of nonrespondents was not possible.

RESULTS

Results are based on the responses of 224 practitioners. This represents a return rate of 58.6% on the 382 survey packets distributed. Information taken from the demographic section of the questionnaire provided a preparation, experience, and delivery model profile of the respondent group. Just over one-half of the respondents (50.5%) reported a BA or BS as their highest degree to date. Of those with a graduate degree, the Master of Arts degree was most popular (37.5%). Survey participants' experience in special education teaching ranged from 1 to 24 years with an average of 6.1 years. While all of the teachers surveyed were special educators, nearly half had previous regular education experience as well. This regular education experience ranged from 1 to 29 years and averaged 5.7 years.

When questioned about their current professional assignment in special education, the most popular response was the EH/LD resource room (36.2%). This was followed in frequency by cross-categorical resource room (27.7%), EH self-contained (14.5%), EH resource (5.8%), and LD/EH self-contained (5.2%). The remainder of the response group was composed of special education administrators, school psychologists, and school counselors (10.3%). Respondent training backgrounds were also varied, with nearly two-thirds of the survey participants (65.2%) earning at least one teaching degree at a university other than the major institution serving the study area.

On that part of the survey dealing with practitioner satisfaction with conventional 4-year teaching programs for those intending to work with emotionally handicapped students, about one-half of the respondents indicated such training programs are currently sufficient for work in public and private day school programs. As preparation sites for teachers intending to go into institutional EH settings, the approval rating for the typical 4-year program fell to 32.3%. Complete data are presented in Table I.

TABLE 1

Practitioner Perception of Training Program Adequacy

Employment Setting	Adequate	Inadequate
Public School Program	54.2%	45.8%
Private Day School EH Program	47.9%	52.4%
Institutional Program	32.3%	67.7%

Responding to program content, practitioners indicated a clear preference for instruction in both normative and criterion referenced testing (76%), direct, continuous measurement of performance (68%), and use of behavioral checklists (72.3%), over so-called "process" testing (37.5%).

According to the respondents, the most effective format for teaching emotionally handicapped methods courses is a categorical treatment of the topic (66.5%). Nearly one-third of those surveyed considered regular education methods courses valuable in the training of teachers for work with the EH population. Respondents were very supportive of the suggestion that methods courses be increased in both scope and number. These courses should cover academic teaching methods as well as methods of behavioral recordkeeping and classroom management, according to 74.5% of the respondents.

Practitioner concern for the upgrading of the practical aspects of teacher training was reflected not only in their support of methods course work, but also in their shared position concerning field experience. In this study, 98.7% of the respondents considered practicum prior to student teaching to be essential. Student teaching itself was viewed as very important to training programs as evidenced by the near unanimity of support (99.1% of respondents) for this experience. Furthermore, a majority (55.8%) considered a full semester of student teaching (15 credit hours) to be the minimum acceptable length of training for preservice teachers. The single most popular personnel alternative for the college supervisor role was the special education faculty member (37.1%), but a nearly equal number of respondents (36.2%), were willing to accept a broader range of supervisory individ-

TABLE 2

Practitioner Preference for University Supervision
(Who should supervise student teachers?)

Perspective Supervisor	% Acceptance
Special Education Faculty	37.1
Doctoral Students	9.0
District Master Teachers	30.4
Master's Level Graduate Students	1.3
Any of the above, given knowledge of and experience in special education	36.2

uals if they possessed adequate knowledge and experience in the area of special education supervision (Table 2).

CONCLUSION

Respondents in the present study clearly indicated support for training focused on the pragmatic, day-to-day concerns of teaching. This rather vocational approach to teacher training is not likely to result in "transforming the historic concept of the teacher to that of a professional using the highest order of professional knowledge and skill in service to the school, community, and society" (Howsam, 1981, pp. 144-145). At the same time, teacher training programs that have been developed independent of clinical realities have contributed to the ambivalence shown by practitioners when asked to assess those conventional teacher training programs. There is clearly a need for teacher trainers in university programs to get in touch with their constituency. Response to the present study questionnaire was, in a small way, indicative of that need. Many of the respondents were surprised by, but appreciated, this opportunity to comment on teacher training. This sort of program input is not difficult to collect and serves the purpose of improved communication and coordination.

Professionals in schools and university training programs have much they can contribute to each other if they choose to collaborate at something more than a superficial level. The increased emphasis on preservice field experience can provide an opportunity for a positive collaboration, as university- and school-based teacher trainers work to develop more comprehensive and integrated training programs.

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IMPACT: A Functional Curriculum for Educating Autistic Youth in Natural Environments

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Support among educators for a fundamental change in both the instructional environment and the curriculum content of educational programs for autistic children has increased over the past few years. There has been a discouraging lack of data which indicate maintenance and generalization of skills taught in artificially structured and highly controlled environments (see Lovaas, Koegel, Simmons, & Long, 1973). Also, the developmental curricula used have failed to supply educational programing content which adequately enhances the capabilities of autistic students to participate fully as adults (Brown, Nietupski, & Hamre-Nietupski, 1976; Neel & Billingsley, 1981). The inadequacy of developmental curriculum content for slow or idiosyncratic learners is illustrated by Brown, Branston, Hamre-Nietupski, Pumpian, Certo, and Greenwald (1979). When autistic students graduate at 21, having mastered only the beginning skills of developmental sequences such as puzzle assembly or block stacking, the efficacy of their educational program must be questioned. The discrepancy between autistic students and their peers only increases with age and their progress toward independent adult functioning is minimal. A curriculum that taught functional skills in their natural context could remediate such problems. Several authors have called for a more functional curriculum for autistic and other severely handicapped students (Brown et al., 1976; Donnellan, Falvey, Pumpian, Baumgart, Schroeder, & Brown, 1980; Dunlap, Koegel, & Egel, 1979; Koegel, Rincover, & Egel, 1982). They suggest that functional curriculum content should include skills in domestic living, recreation/leisure, and community and vocational functioning. However, the lack of an existing comprehensive curriculum that includes environmental assessment individualized programs, and the technology to instruct and evaluate in the natural environment has been a major deterent to the teachers and parents of autistic children.

The Innovative Model Program for Autistic Children and their Teachers or IMPACT (Neel, Billingsley, McCarty, Symonds, Lambert, Lewis-Smith, & Hanashiro, 1982) is a functional curriculum that provides the teacher with an instructional system s/he can use to teach autistic children the skills required to participate effectively in community, home, and school environments now and in the future. This curriculum model not only provides a

process for programing individualized functional skills in context but also employs a data collection system specifically designed to evaluate pupil performance on skills performed within context and in natural environments. The remainder of this paper gives an overview of the IMPACT curriculum and pupil performance evaluation system. A summary of the IMPACT pilot data are also included.

THE IMPACT MODEL

The goal of the IMPACT curriculum is to enable autistic children to participate in their environment to the maximum degree possible through improved communication and independence. To do this, a fundamental change in the teaching environment is required. Basic to this change will be the understanding and acceptance of new standards for what constitutes a *good program.* Many educators have been accustomed to evaluating success in terms of progress along a given developmental continuum coupled with the reduction and/or elimination of undesired or disruptive behaviors. Most of the instructional curricula developed thus far are predicated on this developmental model. The IMPACT curriculum, on the other hand, is based on a functional model. It teaches autistic children communication skills that are needed in the child's home, school, and community. Such a functional curriculum is founded on the belief that the developmental model's view of success is illusory and not always in the best interest of the child. Radical changes in the expected educational outcomes for autistic children are required. A brief look at the history of education for autistic children indicates why such changes are needed.

The application of behavioral technology to the education of autistic children produced a drastic change in school programs. Ferster (1961), along with Lovaas and his colleagues (Lovaas, Schaeffer, & Simmons, 1965; Lovaas, 1968; Lovaas, Koegel, Simmons, & Long, 1973), demonstrated that autistic children could learn. Once the educational technology of *how to teach* was demonstrated, the question of *what to teach* became a major concern. Naturally, educators looked at what normal children could do. The stage theories of Piaget (1946/1962) and Gesell and Amatruda (1949) became the major building blocks of developmental curricula. The goal of educational programs for autistic children was to systematically teach them to progress through the same developmental milestones that normal children do, only at a slower pace. Instructional methods were then developed to increase the pace with which autistic children learn the pieces of normal development. The effect of the application of behavioral technology was that autistic children were now in school and that they were learning. Then why a need for change? As Brown et al. (1979) and other workers have pointed out, the outcome of this training was still the same. Although autistic (and other handicapped) children were learning in schools, they were *not* better off as adults. The end result — institutionalization — was only postponed. The utility of the developmental tasks had passed before the children were able to use them. What was being taught resulted in 20-year-olds functioning the same as 4-year-olds. Our enthusiasm about growth toward developmental milestones created an illusion of progress. Growth in real terms, however, was seldom measured. In other words, learning developmental milestones had little impact on an autistic child's

life. Growth in and of itself became the standard of a successful program, regardless of whether or not that growth made any real difference in the autistic child's ability to participate in his/her environment. To be sure, some growth may appear better than no growth. Getting better at the wrong things, however, is not getting better. A change in approach was needed, and the IMPACT curriculum was designed to promote such a change.

Curriculum Features

The IMPACT curriculum has four major features. Each feature is discussed below. Together they make up a curriculum system that is considered to effectively teach autistic children in the natural environment. They are separated here for clarity only. All of the elements must be present to provide an adequate program.

Environmental assessment. The instructional goals used in the IMPACT curriculum are taken from the child's home and community environment. This is a marked departure from more traditional curricula where the goals are determined by the child's present functioning on a developmental sequence of normal behavior. Home and School Environmental Inventories provide information on how the student currently functions on a variety of necessary home, school, and community activities. They also target which skills parents and teachers would like the child to learn for more effective functioning in relevant environments. A list of priority functional activities, or *routines*, is generated from this information and those activities become the curriculum content of each child's IEP. Because the goals are taken from the present environments of a child, the ability to link classroom instruction with natural reinforcers is increased. Through a careful analysis of a child's home and community activities, the teacher can plan instructional programs that possess functionality for the child. These programs should take precedence over other programs that seem only to serve a function for others.

Pragmatic communication. Communication/social skills ar the most important skills a child can learn. Communication/social skills are not independent of their contexts. Words and acts separate from their implied intent have little or no purpose. The language programs of the early 70s clearly demonstrated that apparent growth in speech and language was not necessarily growth in communication (Lovaas et al., 1973). Communication/social skills need to be taught where they will be used. If children are going to communicate effectively, they must learn to get their message across in real situations. This is markedly different from learning a specific language form, and then trying to apply it to the correct situation. All of us use a complex set of communication tools to gain understanding. It is no different for autistic children. If we want autistic children to gain any modicum of success in controlling their environment, we must teach them to communicate in settings and situations that matter to the child, and cease the practice of teaching them to "talk like me" in isolated classroom settings.

Routine instructional format. Functional skills are taught through routines in their natural context. Functional skills are those skills that are frequently required in a child's environment to produce a desired result. White (1980) calls this result the critical effect of a behavior. The idea of a

functional curriculum is to focus on an effect a child desires to produce (e.g., being well-fed, protesting, contacting others, having fun, keeping warm, getting from one place to another), and then to teach the skills required to produce that effect. The IMPACT curriculum is based upon the belief that such functional skills should be taught in natural contexts.

The instructional content of the IMPACT curriculum consists of sequences of activities that are necessary to produce a desired effect. These sequences are called routines. For example, if a child needed to eat, all the activities required to produce the desired effect (being full) would be sequenced and taught as an integrated unit. This might include telling mother "I am hungry," deciding what to have, preparing the snack, eating the snack, and cleaning up afterwards. To successfully complete any routine, a child must learn several skills. Educational programing in routines, therefore, provides for the instruction and organization of skills as a sequential, integrated unit. The motor, communication, academic, and social parts of more traditional curricula are integrated into a natural routine.

Home, school, and community environments all have many routines. For example, getting to the classroom from the school bus, eating out at McDonalds, and going to the bathroom are all routines. Each of these routines produces a desired result (i.e., bus - locomotion; eating - sustenance; toileting - elimination). An instructional program is developed by task analyzing routines into the series of steps which achieve the desired effect. The routine is then instructed when and where it is required by the natural environment. It is the IMPACT philosophy that every activity and skill that needs to be taught can and should be integrated into a routine leading to a critical effect for the child.

There are many advantages to a routine instructional format. Teaching in context removes many of the generalization and motivation problems that occur in other curricula. First, when the routine teaching format is used, the child achieves the desired result every time s/he is taught. When behaviors successfully produce a desired effect (i.e., a natural reinforcer) for the child, they are more likely to be repeated.

Second, the child learns not only what to do, but where and when to do it. The natural cues and consequences that will control and maintain a skill sequence are learned during instruction, so additional generalization training may be unnecessary. Traditionally, generalization training (where and when to perform) is often postponed until the child has mastered the skill itself (the what) or is ignored altogether. Teaching skills in context via routines eliminates the second instructional phase of transferring a skill from an isolated artificial setting to a more natural one. Thus, generalization problems may be reduced along with an increase in the efficiency of instructional time. When the sequence of skills within a routine is acquired by the child, the routine simultaneously becomes useful; i.e., it has become a functional skill.

A third benefit from teaching routines is that skills learned come under the control of cues and consequences that occur within context in natural environments. Such "natural" control should increase the likelihood that the routine, once learned, will be maintained.

Evaluation system. The final component of the curriculum package is a

pupil performance evaluation system consistent with the routine instructional format. The data system provides both summary data about overall progress, and daily pupil performance data for teachers to use in their instructional decision making. A new type of data system needed to be developed. How this system differs from more traditional data systems, and why changes were required, are discussed in the data sections below. For a more thorough discussion of the requirements for such a data system, see Neel and Billingsley (1981).

EVALUATING PERFORMANCE

Increasing recognition has been given to the importance of pupil performance evaluation within the process of instruction during the past decade (Howell, Kaplan, & O'Connell, 1979; White & Haring, 1980). Special educators have become sophisticated users of classroom evaluation techniques. In addition, decision rules have been developed which provide highly effective guidelines regarding not only *when* to change instruction, but *what* types of changes are most likely to remediate unsuccessful instructional programs (Haring, Liberty, & White, 1980). These decision rules are based on an evaluation system which requires that data be collected daily on target behaviors, that pupils be given multiple opportunities to respond during assessment sessions, and that pupil performance be assessed not only in terms of accuracy, but in relation to a time base (i.e., rate, duration, or latency of responding). Such evaluation system characteristics are consistent with those frequently recommended in texts and seem to possess not only face validity but practical utility and a growing research base as well (e.g., Barrett, 1979; Billingsley & Liberty, 1982; Bohannon, 1975; Haring, et al., 1980; Lindsley, 1972; Lovitt, Kunzelmann, Nolan, & Hulten, 1968). The major problems with using the present evaluation procedures for making decisions when using a routine teaching format are that: (1) Across-session data patterns will bear little resemblance to those with which educators have become familiar; and (2) the data obtained on any given day may inaccurately reflect the true level of pupil ability.

Multiple-Trial Evaluation

When a multiple-trial instructional format is used, pupil performance is free to vary within the amount of assessment time or number of trials available in any given session. Performance for any session, therefore, is often reflected by a score which represents multiple responses. Over the years, data patterns which result from multiple-trial instruction have become familiar to educators and these educators have developed the ability to make effective instructional change decisions based on such patterns. Unfortunately, the evaluation refinements and innovations which have benefited teachers employing traditional instructional formats (i.e., repeated trials) are inappropriate for most routine instruction. This is because most skills required in the natural environment are not usually performed as repeated trials. Many behaviors only occur in their natural context once or twice during the day (i.e., making the bed in the morning; eating in a fast-food restaurant). Any specific instructional session will yield data which represent only one or two responses. Resultant data patterns, there-

fore, are likely to be unfamiliar to teachers. In addition, a single response scores lack the stability of scores obtained from multiple responses, any given datum point may be a highly suspect estimate of pupil ability. The IMPACT data system was designed to remediate such problems.

IMPACT Evaluation System

The IMPACT evaluation system contains four elements: assessment, instructional data collection, data decision rules, and probes.

Assessment data. Assessment data are collected to determine what assistance is required to ensure that the child will reach the desired result each time s/he is instructed. A hierarchy of six levels is currently being used. The hierarchy begins with independence as the least intrusive level followed by verbal cue, verbal cue plus gesture, physical prompt, partial physical assistance, and finally, full physical assistance as the most intrusive. Since motivation for learning depends upon the child achieving the critical effect of the routine, it is necessary to determine what levels of assistance will be required before instruction can begin. In more traditional programs, assessment often involves determining the present level of functioning on a developmental sequence, and then beginning instruction on the next step. With the IMPACT curriculum, each session of instruction must culminate with the desired result. Assessment data are, therefore, used to determine the required level of assistance for each step in the entire routine. This enables the teacher to plan a program that will ensure that each instructional session is successful.

It is recommended that assessment procedures be repeated three times because the performance of autistic students is often variable. This will be especially important for teachers who have little experience with the child they are assessing. The most frequently required level of assistance on each step during the assessment will become the criteria for a correct response during programing. For example, if one step of the routine required a physical prompt on two sessions and full physical assistance on the third session, the child's instructional plan sheet would describe criteria for correct performance on this step as: "The step performed within the specified latency with a physical prompt as a cue." Once the assessment has been completed, the teacher is ready to begin instruction.

Instructional data collection. Instructional data are collected on every trial of a routine and are recorded in five trial blocks to assist in instructional decision making. A step is recorded as correct if the child responds at the level of assistance that was determined by the assessment. If a child requires a partial physical assist to perform a particular step of the routine during assessment, and also requires that same level of assistance during the instructional session, then a correct is scored for that step. In other words, since levels of assistance are antecedents rather than correction techniques, responding at a predetermined level of performance is considered correct. If, on the other hand, the child fails to respond at the required level, then an error is recorded. Three types of errors are noted: latency, duration, and an incorrect response. After the first five sessions of instruction, the data should be reviewed to determine whether or not a change needs to be made. To assist in this determination, the IMPACT curriculum has developed a set of decision rules.

Data decision rules. These decision rules have been developed based upon the pilot data of the IMPACT project. Since the number of children and the amount of routines used are few, they should be viewed as tentative rules that will require further modifications. The IMPACT classroom teachers have shown good results with a similar, but slightly more complex, set of rules. These results are shown in the data summary at the end of this article. The following are the decision rules that are currently being used by the IMPACT classroom teachers. They may, however, be revised based upon the data collected during the 1982-83 school year. The rules apply to each step within the routine.

1. Provide five instructional sessions (an instructional session is one complete movement through a given routine).
   1.1. If two or more responses are scored as correct in the first five-session block, go to 2.
   1.2. If not, change the program and return to 1.
2. Provide five instructional sessions.
   2.1. If at least three responses are scored as correct, go to 3.
   2.2. If not, change the program and return to 1.
3. Provide five instructional sessions.
   3.1. If at least three consecutive responses are scored correct, move to greater independence (e.g., fade cues; if cues have been faded, fade reinforcers; if cues and reinforcers have been faded, terminate instruction for the step and either collect maintenance data or implement procedures to increase sophistication of response form).

   Note concerning reinforcement fading: If a student achieves the "independence" level of functioning on a routine step, or on the total routine, the teacher may still be using artificial reinforcers which should be faded so as to approximate more normal conditions. In that case, implement fading procedures and continue to take data as suggested above; at this point, however, data decision guidelines have not been formulated. Examine the data and make changes based on your current knowledge of learning principles and pupil characteristics.

   3.2. If the student does not score at least three consecutive correct responses, change the program and return to 1.
4. If, at any point in the preceding sequence, three consecutive correct responses are scored, implement procedures to further increase independence as suggested in 3.1.
5. If the pupil gives a spontaneous independent response at any point in the preceding sequence, the criterion for a correct response should immediately be changed to independent functioning.
6. Where program changes are necessary, the type of errors and error patterns within and across 5-day blocks should suggest appropriate program changes. For example, consistent failure to respond within

latency limits may suggest the need to provide additional information in the form of cues and/or increase communicative intent; consistent incorrect responses might suggest the need to either provide more information and/or provide stronger consequences; mixed latency and response errors might suggest the need to provide additional information; and, duration errors might indicate the need for consequation for more rapid performance.

7. If massed practice is selected as an instructional intervention, data collection procedures and decision rules for massed practice may be followed. When using this type of intervention, it is important to remember the criterion for success is still a correct response in context within the routine; therefore an opportunity to evaluate the response within a routine is still required.

Probe Sessions. There are three types of probes that are used in the IMPACT data system. *Maintenance probes* are used to help the teacher determine whether or not a particular level of performance has to be maintained after direct instruction has been stopped. *Independence probes* are used to reassess a child on each routine every few weeks. These probes allow a child to show growth that might not be noted during instructional sessions. *Generalization probes* are used to determine whether or not a particular skill is being used in other settings than the instructional one. These are taken throughout the instructional sessions.

DATA SUMMARY AND CONCLUSIONS

The summary data reported below were compiled from programs conducted in three classrooms implementing the IMPACT curriculum model. All students on which data are reported scored within the autistic range on the Autism Screening Instrument for Educational Planning (ASIEP) (Krug, Arick, & Almond, 1980). The students ranged in age from 5 to 13 years. Table 1 reports information on the average number of routines per student and average number of steps per routine. The average number of routines across all three classrooms was 5.2 with an average number of steps per

TABLE 1
Data Summary for Each Classroom

Classroom		1	2	3	Total
Number of students		3	6	6	15
Number of routines		23	30	25	78
Average number of routines per student		7.67	5	4	Average 5.2
Average number of steps/routine	Initial	10.13	11.9	10.48	10.92
	End	11.43	14.00	9.64	10.56

routine between 10.92 and 10.56. This can be interpreted as instruction on about 56 individual skills (steps) per student. Routines that were taught included, for example, snack preparation, dressing for gym, getting from the school bus to the classroom, and toileting.

Figure 1 shows the average number of steps at each level of assistance per classroom for initial assessments Fall quarter and the end levels after Winter quarter. The progress toward independence reflects two quarters of instruction using routines. All classrooms showed progress toward lesser assistance for each level of assistance. Most impressive was the 42% increase across all classrooms in the number of steps performed independently.

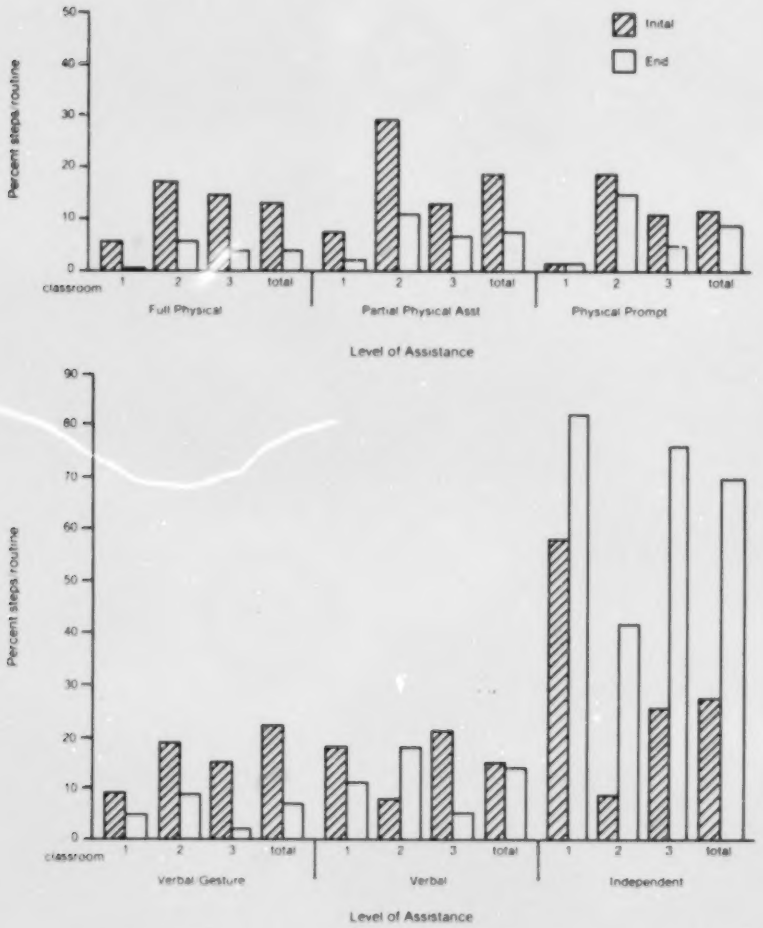

Figure 1. *Pupil progress toward independence from Fall through Winter quarter.*

The data support the contention that autistic students can learn skills when they are instructed within context and in the natural environment, and that the development of functional skills does not require the presentation of large numbers of trials within instructional sessions. Indeed, only one trial was presented daily for many of the routines taught in this Project. Maintenance data on routines in which students have reached independence are currently being collected. Performance is assessed using the probe session procedure.

The pupil performance data reported here provides substantial evidence of progress toward independence on functional routines. It does not, however, empirically examine the differences between massed trial and routine instruction on variables such as skill acquisition rate, maintenance, and generalization. This information could greatly assist educators in curriculum selection and development for autistic students. Although beyond the scope of this Project, research to provide such information appears warranted in the future.

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Nonhandicapped Peers as Tutors for Severely Behaviorally Disordered Students

William Stainback and Susan Stainback

Peer tutoring is not a new concept and there are a number of excellent reviews of research on the topic (Ehly & Larsen, 1980; Strain, 1981). However, there is little or no literature that directly relates nonhandicapped peer tutoring to the integration of severely behaviorally disordered students into regular schools. It is important that this void in the literature be corrected since increasing numbers of severely behaviorally disordered students are being integrated into regular neighborhood public schools. Many of these students require individual help with a wide array of rather ordinary behaviors such as staying on tasks, finding their way down the hallway, eating lunch in a school cafeteria, and playing on the playground with other children. The special education teacher alone may not be able to provide all the assistance needed. Nonhandicapped students represent one possible source of help.

The notion of increasing the involvement of nonhandicapped students in tutoring severely behaviorally disordered students is particularly appealing since recent research has shown that many nonhandicapped students want to help their handicapped peers (Kennedy & Thurman, 1982); Stainback & Stainback, 1982a), and nonhandicapped students (McHale & Simeonsson, 1980) and severely behaviorally disordered students (Lancioni, 1982) can benefit. The purpose of this paper is to (a) review and summarize the research on nonhandicapped peer tutoring of severely behaviorally disordered students, (b) discuss practical considerations in organizing tutoring programs, and (c) postulate future research needs.

REVIEW OF RESEARCH

The following research review on nonhandicapped students tutoring severely behaviorally disordered students is divided into two sections: (a) influences on severely behaviorally disordered students, and (b) influences on nonhandicapped students. The review is not intended to be exhaustive, but it is intended to be representative of the tutoring research with severely behaviorally disordered students.

McHale, Olley, Marcus, and Simeonsson (1981) employed nonhandicapped peer tutoring for 5 weeks to increase the on-task behaviors of five autistic students. Serving as tutors were 25 nonhandicapped students, 5 per week. Each week each of the 5 nonhandicapped students was assigned one of the five autistic students to tutor on preacademic activities designated by the special class teacher. (The same autistic students participated in the tutoring sessions each week, whereas the nonhandicapped students participated only during the 1 week that they tutored). Direct observation of the on-task behaviors of the autistic students occurred during weeks 2 and 5 of the tutoring program. The autistic students displayed a significant increase in on-task behavior. Decreases in severe maladaptive behaviors (i.e., tantrums, self-injurious behavior, active avoidance of others) were noted also. McHale and her associates (1981) concluded that "this approach appears to be a viable procedure for fostering adaptive behaviors in severely handicapped children" (p. 264).

Other researchers have studied ways of improving autistic students' social interactional behaviors through peer tutoring. Ragland, Kerr, and Strain (1978) used a nonhandicapped peer to modify the social behavior of three elementary-age autistic students. The peer was trained to make social bids to the autistic students for the purpose of improving their social behaviors. More specifically, the peer was instructed to give play toys to the severely handicapped students and to make statements such as "Let's play." As a result of this intervention, the autistic students' *self-initiated* social behaviors increased dramatically. Unfortunately, an analysis of the data indicated that there was no maintenance of any of the autistic students' increased social behaviors when the intervention procedure was removed.

In another study by Strain, Kerr and Ragland (1979), a tutor was trained in the appropriate use of specific prompting statements such as "Roll the ball to . . ." and verbal reinforcers such as "Good . . ." to teach two low functioning elementary-age autistic students to emit positive social play behaviors toward each other. Peer tutoring resulted in a significant acceleration of the positive social behaviors of the autistic students toward each other. However, the increased social behavior did not maintain after tutoring was discontinued, nor did the behaviors generalize outside of the direct intervention setting. It should be noted that in the studies reviewed above there was no mention of any specific procedures that were implemented to promote generalization and/or maintenance of the newly acquired behaviors.

Finally, Lancioni (1982) employed nonhandicapped peer tutors to teach four severely withdrawn retarded students to exhibit a variety of social responses, such as cooperative play and positive social verbalizations. The severely withdrawn students acquired the social responses. Generalization of the newly acquired social responses occurred and maintained across peers and settings. In addition, there was evidence of response generalization; i.e., the students displayed an increase in social behaviors not specifically trained.

It should be noted tht Lancioni (1982) employed specific procedures to promote generalization and maintenance. To facilitate generalization across peers and responses, he employed several peer trainers and had

them train and reinforce a variety of different social behaviors. This was done so that the withdrawn students could experience displaying a variety of social behaviors across a variety of different peers. Generalization across settings (as well as maintenance) was facilitated by a gradual weaning procedure, which was employed to move the newly-acquired social behaviors from a continuous to an intermittent schedule of reinforcement and from edible to social reinforcers. Lancioni (1982) concluded:

> The findings that the tutors were highly and consistently reliable in conducting virtually alone the entire intervention program underlines the potential of normal children as coadjutors in the rehabilitation of severely withdrawn retarded peers and reemphasizes the conclusions of previous studies on peer tutoring. (p. 38)

Influences on Nonhandicapped Students

McHale (1981) and McHale and Simmeonsson (1980) investigated the influence of a 5-week unstructured tutoring experience on the attitudes and interactions of nonhandicapped elemetary-age students toward their autistic peers. They also investigated the nonhandicapped students' understanding of autism as a result of the tutoring experience. These investigators organized 30 nonhandicapped students into five small groups of 6 students and each group was paired for a week with six autistic peers in a play session. The same autistic students participated in the tutoring sessions each week, whereas the nonhandicapped students participated only during the 1 week that they tutored. The nonhandicapped students were instructed that it was their job to teach the autistic students how to play because they did not know how to play. Data were collected on the nonhandicapped students' frequency of interactions with, understandings of, and attitudes toward the autistic students.

The results indicated that during the tutoring experience, nonhandicapped students increased their frequency of positive interaction with the autistic students and their understanding of autism (i.e., correct responses to questions based on current conceptions of autism). In regard to attitudes, it was found that the students held positive attitudes toward the autistic students both before and after the tutoring experience. (Attitudes were measured by asking the nonhandicapped students questions such as: "Are you willing to be with autistic children in the cafeteria?"). The data from this investigation supports the use of tutoring as a way of increasing nonhandicapped students' understandings of and interactions with autistic students.

Conclusion

Based on the available research evidence, it appears that nonhandicapped students can help severely behaviorally disordered students learn new behaviors. However, severely behaviorally disordered students apparently do not spontaneously generalize the behaviors they learn in tutoring programs to other settings and people. They also do not spontaneously maintain their behaviors after tutoring ceases. Only when specific procedures to promote generalization and maintenance are incorporated into tutoring does generalization and maintenance occur.

One very positive finding is that nonhandicapped students can benefit from tutoring severely behaviorally disordered students. For instance, it appears that their understanding of handicapping conditions can improve as a result of being involved in tutoring programs with severely behaviorally disordered students (McHale, et al., 1981).

PRACTICAL CONSIDERATIONS

The following discussion focuses on a few critical variables that should be considered when organizing nonhandicapped peer tutoring programs.

Determining Tasks

A primary consideration in any training approach is the determination of the desirable behaviors to be fostered. Both teachers and nonhandicapped peers need to be able to evaluate and choose those behaviors that are age-appropriate and functional. Behaviors that are age-appropriate need to be determined to foster the social acceptability of severely behaviorally disordered students in natural environments. Behaviors that are functional should be selected in order to enhance the severely behaviorally disordered student's chances of learning to live in natural community environments. Logically, if the behaviors taught through peer intervention procedures are not age-appropriate and functional, the potential benefits to severely behaviorally disturbed students of nonhandicapped peer tutoring will be negated.

It should be noted that while many professionals in the past have felt that it was not possible, due to mental age functioning and/or emotional difficulties, for some severely handicapped students to work on age-appropriate activities, this belief is changing (Brown, Branston, Hamre-Nietupski, Pumpian, Certo, & Gruenewald, 1979). The reader interested in more detailed information is referred to the cited article.

Training Nonhandicapped Students

Nonhandicapped peer tutoring has been found to be effective more often when the nonhandicapped students were specifically trained in instructional techniques (Lancioni, 1982). Nonhandicapped students have been trained to task analyze behaviors, provide prompts, apply consequences, and model behaviors for handicapped students. Approaches used successfully to teach nonhandicapped peers these skills include direct instruction, role playing, and reinforcement of the desired behavior. As an example, Strain et al. (1979) used brief training sessions in which specific instructions for tutoring were provided. Role playing was also utilized in which the teacher, assuming the role of a severely behaviorally disordered student, responded intermittently to the tutoring attempts of the nonhandicapped students. The teacher did not respond every time since severely behaviorally disordered students are not likely to do so. In this way, the teacher prepared the nonhandicapped students for potential nonresponding.

When training nonhandicapped students, it is important that the training be realistic. As Simpson (1980) noted:

> The students must be made aware that their contacts, regardless of

how well planned and executed, might be rebuffed or otherwise negatively consequated. Because the responses are unpredictable and varied, students must be instilled with realistic expectations and alternative responses. (p. 8)

Determining the Impact

Evaluation is essential when implementing nonhandicapped peer tutoring since there are potential problems that may occur. For example, as noted above, some severely behaviorally disordered students may respond infrequently to the tutoring attempts of their nonhandicapped peers, thus thwarting the enthusiasm of the nonhandicapped peers to continue. If such low responding is detected, teacher-administered reinforcement procedures may be needed to keep the nonhandicapped students tutoring until the severely behaviorally disordered students' rate of responding is increased. In addition, some nonhandicapped students may not be particularly suited for tutoring because of a poor attitude, impatience and/or the inability to apply appropriate instructional techniques. Without continuous and systematic evaluation, such problem areas could go undetected and uncorrected.

FUTURE RESEARCH NEEDS

Nonhandicapped peer tutoring of severely behaviorally disordered students has begun to receive attention in the research literature. However, further study of this intervention strategy is needed. Two areas of needed research are the investigation of (a) the generalization and maintenance of helping behaviors by the nonhandicapped peer tutor, and (b) the effectiveness of the nonhandicapped peer tutoring strategy with secondary age students.

When specific techniques have been incorporated into the tutoring activities to foster generalization and maintenance, new behaviors learned by the severely handicapped students through peer tutoring have generalized and maintained beyond the tutoring setting (Lancioni, 1982). While more research beyond this one study by Lancioni is needed on the generalization of new behaviors learned in tutoring by severely handicapped students, researchers in the future should also focus some attention on the generalization and maintenance of nonhandicapped students' helping behaviors. To date, the generalization of helping behaviors by nonhandicapped students has not been studied. A critical question is: Will nonhandicapped students who are involved in an adult organized and directed tutoring program display helping behaviors toward handicapped students at other times? In other words, will they learn as a result of tutoring experiences to more often help their handicapped peers when not under the direct supervision of adults?

One benefit sometimes cited for nonhandicapped peer tutoring is that the nonhandicapped students learn *how* to help their handicapped peers (Stainback and Stainback, 1981, 1982b). However, if this helping behavior is not exhibited outside of the tutoring setting or with other handicapped students, its usefulness as an ongoing skill is questionable. Thus, investigation of the generalizability and maintenance of the helping behaviors of

nonhandicapped students is needed. Also, research is needed to determine procedures that could be used to foster generalization and maintenance in those cases where generalization and/or maintenance does not spontaneously occur.

A caution should be noted here. While nonhandicapped students should learn to help severely handicapped students when and where appropriate, a potential problem could arise wherein nonhandicapped students learn to provide too much help (or become overprotective) with regard to severely handicapped students. Systematic and reliable data collection procedures can aid in the detection of such potential problems.

The second area of needed research involves peer tutoring with the secondary-age students. Numerous investigations of peer tutoring of the handicapped by the nonhandicapped students have been conducted with elementary and preschool age students. However, there has been little corresponding research conducted with secondary-age students. Thus, there is a critical need for more research with older students. It could be precarious to generalize the findings of research with young students to older students.

SUMMARY

Increasing numbers of severely behaviorally disordered students are being integrated into regular neighborhood public schools. These students will require a great deal of individual attention and assistance. Many of them will need help in entering and departing the school from the bus loading and unloading zones, finding their way to the special education classroom, playing with their nonhandicapped and handicapped peers on the playground, and learning simple educational tasks. Nonhandicapped students have expressed a willingness to help (Kennedy & Thurman, 1982; Stainback & Stainback, 1982a) and have been found to be effective in providing assistance (Lancioni, 1982). Thus, nonhandicapped students represent a readily available source of manpower to assist in helping severely behaviorally disordered students function in regular schools. In this paper, the authors have reviewed the research on the feasibility of nonhandicapped peer tutoring and have advocated that increased attention be given to the use of nonhandicapped peers as tutors for the severely behaviorally disordered students.

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Making Decisions about the Noncompliance of the Severely Behaviorally Disordered and Autistic Individuals

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ABSTRACT

The noncompliance with the requests of professionals and parents by severely behaviorally disordered individuals is a major problem which interferes with planning, assessment, and teaching. There are at least three causes of such noncompliance: attention seeking, escape, and boredom. Although the manifestation of these forms of noncompliance are often similar, the interventions to each are unique. In fact, the selection of an intervention which is inappropriate to the actual causation of a behavior may strengthen the noncompliance. Data based indicators for selecting appropriate interventions are presented along with a brief discussion of several interventions suited for each of the specific causes of noncompliance.

For both parents and professionals, the "minding" behavior of individuals who are severely behaviorally disordered or autistic has become a critical concern. This critical concern arises because noncompliant behavior affects learning, maintenance of skills, and generalization of behavior in all settings (Liberty & Wilcox, 1981; Poling, Nelson, & Miller, 1977). Noncompliance can block the successful implementation of individual programs and the effective transition of individuals from setting to setting as well as reducing the ability of that individual to ultimately function in society.

Noncompliant behavior can be expressed by the severely behaviorally disordered or autistic in a number of ways. These include the ignoring of requests made by the parent or professional (Haring, Liberty, & White, 1980), latency in responding to the point of not being acceptable (Fowler, Moses, Whitman, & Zukotynski, 1978), and the performing of behaviors other than those requested. The latter group have been described in some length in the literature and the performed behaviors include aggressive behavior (Carr, Newsom, & Binkoff, 1980), discrepant use of language (Volkmar & Siegel, 1979), persistent errors (Liberty & Wilcox, 1981), tantruming, Mansdorf, 1977), and self-stimulatory activities (White, 1981). There is little question that the noncompliant behavior exhibited by the handicapped population is learned behavior (Liberty & Wilcox, 1981). From

an operant conditioning standpoint, the environment is structured in such a manner that noncompliance is more rewarding than compliance. In other words, we as parents and professionals have trained the severely behaviorally disordered and autistic to be noncompliant and are continuing to strengthen that behavior.

The establishment of a proper intervention to noncompliant behavior is no more difficult than other behavioral interventions. However, for the parent and/or professional to be successful, an 8-step procedure should be employed. That procedure includes the following components: (a) Establish that the behavior is noncompliance; (b) determine the baseline; (c) identify the cause of the noncompliance; (d) establish a plan for intervention with a back-up plan; (e) get the plan approved by those involved with the noncompliant individual; (f) institute the intervention; (g) look for behavioral change from data; and, (h) let those involved with the individual know about the outcome.

The remainder of this discussion will center around the first, third, and fourth components. This will include the defining of noncompliance, establishing causes for noncompliance, and providing a number of interventions for each cause of noncompliance.

DEFINING NONCOMPLIANCE

Not all aberrant behavior is noncompliant behavior. In fact, the majority of nonacceptable behavior is not noncompliant. Noncompliance has been defined as not minding or not following instruction which the teacher or parent expects to be followed (Haring, et al., 1980). However, the parent and/or professional must examine this failure to comply by asking two questions. First, can the nonminding individual perform the behavior requested? Clearly, the failure of a nonverbal child to respond orally is not noncompliance. Second, has the individual previously performed the behavior in response to the instruction as given? A student who is requested to climb stairs and refuses to is not noncompliant unless that individual has already demonstrated the skill upon request. The fact that he has previously climbed stairs is not the only factor that must be considered.

There are three general manners of noncomplying that help to define and clarify noncompliance. The first is by not responding to the request. The second is by performing another behavior than the one requested. This may include a variety of behaviors from verbal to physical actions. And finally, failing to respond within an acceptable time frame. This latter form of noncompliance may take on aspects of both of the first two forms. The time frame involved would vary from request to request and from individual to individual.

CAUSES OF NONCOMPLIANCE

At least three causes of noncompliance have been identified which apply to the severely behaviorally disordered students and are supported by research found in the literature (Carr, Newsom, & Binkoff, 1976; Iwata, Dorsey, Sliffer, Bauman, & Rickman, 1982; Liberty & Wilcox, 1981). These are the seeking of attention, the attempt to escape from the demands being made, and boredom. Each of these causes may lead to an individual exhibit-

ing any of the range of possible behaviors. However, the interventions used for each are quite unsuited for application to the other causes. In fact, the use of inappropriate interventions for attention seeking or escape behavior will build the behavior, not lessen it. Each of the causes for noncompliance is unique when viewed by the knowledgeable observer and when data are reviewed.

Attention Seeking

The exhibition of attention-seeking behavior is well recognized and interventions have been discussed at length in the behavioral literature. The concept of attention seeking as a cause for noncompliance can be explained in operant terms. Basically, noncompliance results from an environment that is structured in such a manner that it is more rewarding to be noncompliant than it is to be compliant (Poling et al., 1977).

It is critical to identify attention-seeking behavior as opposed to other causes of noncompliance. The key to this type of noncompliance is that it occurs during nondemand situations. Figure 1 graphically demonstrates how attention-seeking noncompliance data would appear (Carr, 1981; Iwata et al., 1982).

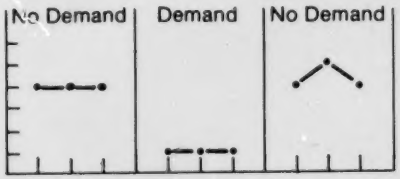

Figure 1. *Attention Seeking Behavior*

The noncompliant behavior (no response, hits, tantruming, running, etc.) continues over nondemand situations at a relatively high incidence whereas it is reduced under demand situations.

Escape

Noncompliance caused by the wish to escape must be recognized as a vastly different phenomenon than attention-seeking noncompliance. The noncompliance in escape behavior is related to the desire of the client to escape demand situations (Carr, 1977).

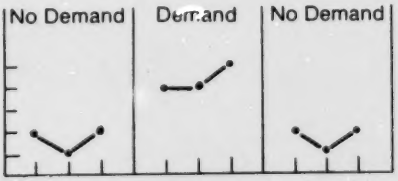

Figure 2. *Escape Behavior*

In the case of escape behavior, the noncompliant behavior is significantly

higher when demand is placed upon the client, while in nondemand situations, the behavior exhibited is nonexistent or limited (Carr, 1976; Iwata et al., 1982).

Boredom

Noncompliant behavior caused by boredom is often more difficult to recognize than the other causes of noncompliance. This is because noncompliance caused by boredom is often manifested primarily in instructional performance. The level of correct responses is greatly varied from session to session (Liberty & Wilcox, 1981). Figure 3 represents what data may look like when the noncompliance is boredom oriented.

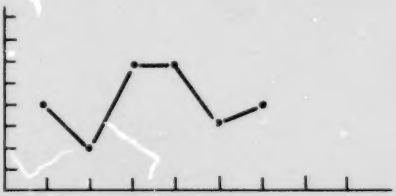

Figure 3. *Variation in Corrects — Boredom*

Any variations that exceed 14% are beyond expected daily variation (White, 1981). The data is characterized by large "jumps". By looking at correct responses in a graphic manner, a pattern of variability is quite apparent. A second indicator is the decrease of correct performance from a high to a relatively low level (Haring et al., 1980). Figure 4 demonstrates this type of data.

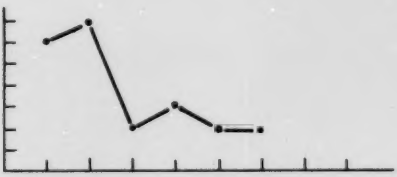

Figure 4. *High to Lower Levels - Boredom*

Another indicator of boredom is demonstrated by performance levels below 50% on simple discrimination levels (Carr, 1981). If a student guesses, he or she should be able to attain a 50% level; if scores drop below this level, the student is intentionally committing errors.

INTERVENTIONS TO NONCOMPLIANT BEHAVIOR

It is critical to identify the type of noncompliance prior to selecting an intervention. The type of noncompliance then dictates the form of intervention and as noted, the incorrect interventions can actually strengthen or build rather than lessen an individual's noncompliance.

Attention-Seeking Interventions

After noncompliance has been established to be caused by attention-seeking behavior, a number of evaluations should be instituted. The first, and often most critical, is analysis of the setting to determine whether a predominantly positive environment exists. In other words, are individuals being rewarded for being on task, complying, and producing; or do more than 25% of the interactions relate to negative behaviors. If the latter is the case, then changes in the overall management system are indicated.

From the overall management system, an analysis of the noncompliant individuals' interactions with others should be completed. It may be that simply ignoring the behavior will eliminate the noncompliance. There are a number of well-known and commonly-used interventions which are available. This includes differential reinforcement of other behavior, extinction, timeout, positive practice, and response-cost techniques. (For a discussion of these approaches, see Walker, 1979).

Escape Interventions

If it has been established that an individual is attempting to avoid demands, then the intervention to the noncompliance must be approached in a different form than if the noncompliance were caused by attention seeking. For example, timeout, ignoring, and even physical restraint allow the noncompliant individual to escape the demands and in so doing, increase the possibility that noncompliance will reoccur. Briefly described below are four interventions which have been shown to be effective methods of decreasing noncompliant behavior and also acceptable to state and local human subjects' review committees.

Make the situation more enjoyable. By selecting new reinforcers, the setting can become so enjoyable that the individual does not want to escape. An example of this approach is to provide highly rewarding (i.e., positive) interactions. This might be the telling of stories, provision of interesting sounds, or use of a highly-desirable tangible reinforcer (Carr, 1981). It should be pointed out that these activities are interspersed with demand situations and do not replace requests. Further, these reinforcers have to be continually evaluated because they can satiate rapidly.

Behavioral task analysis. There are several approaches which fall into this category. The first is the use of task analysis to reduce the difficulty of the steps. In this manner, compliance to requests can be built, based upon small steps. Once compliance is obtained, the level of difficulty can be increased. The second method is similar to the first except the material presented is simplified but the task remains the same. An example of this is using a large shirt with big buttons initially and then gradually bringing the individual to criterion. The third step, referred to as an errorless learning (Gaylord-Ross, 1979), incorporates much of both of the preceeding methods. In this method, the discrimination required is so simple that it is virtually impossible to make an error.

It should be noted that the overriding theory governing the second approach is that the individual is attempting to escape the frustration of making mistakes. This may not be true in all cases of escape caused noncompliance.

Teaching communication. This approach provides the noncompliant person with an acceptable way of not complying. In this approach, the individual is taught to respond in some manner that he/she can't or won't do what is expected of him/her (Carr, 1981). This response may be a sign, a gesture, a word, or a noise. That signal must be understood by all those who work with the noncompliant person. The success of this approach may present new problems and levels of noncompliance. However, these problems can be dealt with much easier than aggressive or self-destructive behavior.

Escape extinction. This approach revolves around the concept that whatever the noncompliant individual does, he/she will be required to complete the tasks (Carr et al., 1980). There are three methods which seem to be quite effective in reducing noncompliance. The first is the use of continued demand for a period of time (Carr, 1977). The only interaction with the noncompliant individual in this approach is to request the completion of the requested activity. As with other forms of extinction, the level of noncompliance will often increase initially and then decrease. The second method has been referred to as "the next thing that you do is what I ask" method. In this approach, much like the first, the individual is requested to comply and make what follows contingent upon compliance. This may include eating, going home, or classroom activities which are enjoyable. The method also requires the individual to follow the routine of the day after compliance has been gained no matter when or how long the compliance takes (Hilton, 1982). The third method is know as "the two or three time rule." After the initial request, a second and/or a third request is made. At that point, immediately after the final request, the noncompliant individual is motored through the requested activity (Hilton, 1982). These methods all tell the individual that he/she cannot noncomply and that the nonacceptable behavior has no payoff.

Boredom Intervention

The interventions to noncompliance caused by boredom are not complex nor difficult to implement. However, they do often differ with established teaching procedures when criterion is not met. Decisions to use these interventions should be based on data indicators noted and their success or failure should also be closely observed.

Increased Difficulty. It has been estimated (White, 1981) that the majority of all noncompliance can be solved by increasing the difficulty of the task or moving to the next step in a series of behaviors. In this method, instead of cutting back, the difficulty of the requirement is increased.

Revise the program. A critically important consideration should be the functionality to the student of the program. It has been suggested that nonfunctional programs lead to high levels of boredom-caused noncompliance, and that behavior may be improved by the use of functional programs which increase the level of independence of autistic persons (Neel & Billingsley, 1981). Another major reason for boredom occurring may be that the criterion used for graduation to the next step is unrealistic. Teachers often use 80 to 100% correct responses for a period of 3 days. These levels are often unrealistic or at least arrived at arbitrarily. In many

cases a success level that is over chance, i.e., 66%, is quite adequate to begin preparing for fluency and generalization.

Other Alternatives. Other suggested revisions in the program include changing the schedule for consequation or correct responses; the institution of a cost-response procedure where incorrect responses are consequated; and the elimination of competing consequences (Liberty & Wilcox, 1981). Any or all of these procedures may aid the teacher, trainer, or parent in reaching criteria and enable the individual to move on to new tasks.

SUMMARY

Noncompliance is one of the major challenges faced by those working with severely behaviorally disordered individuals. Clearly, noncompliance is more complex than was once thought. Instead of being totally an attention-motivated phenomenon, at least two other possible causes exist. The interventions for each of the causes are quite diverse and unique. The educator, trainer, and/or parent must make accurate decisions based on observed behaviors in selecting appropriate interventions. The choice of an intervention based on false assumptions concerning the causation of the noncompliance can lead to the strengthening or increasing of the behaviors that the parent or professional was attempting to eliminate.

Noncompliance must be lessened in many severely behaviorally disordered individuals if learning is to take place. This end can be accomplished if interventions are planned, based upon observational data, and the correct conclusions concerning causation are made.

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Brief Psychiatric Hospitalization: A Study of Its Effect on Special Education Placement

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ABSTRACT

Most follow-up studies of children or adolescents in psychiatric hospitals have focused on outcomes of long-term hospitalization. The present study deals with the psychiatric hospital as an adjunct of the school diagnostic system, in which children and adolescents with a variety of school-related behavior disorders were referred for brief psychiatric hospitalization. Classroom placements of 80 subjects are compared before admission and after discharge, and changes in status are analyzed by IQ, severity, and academic level. Follow-up data are presented on teacher ratings in post-discharge classrooms. Implications for psychiatric hospital admission of school-age subjects are discussed.

Although psychiatric hospitalization has been seen as an essential step on the continuum of services for behaviorally disordered children and adolescents (Gossett, Lewis, Lewis, & Phillips, 1973; Grosenick & Huntze, 1980), there has apparently been little attempt to integrate service delivery between psychiatric agencies and public schools. Integrating services is somewhat less problematic when psychiatric treatment is delivered through outpatient clinics or ongoing school consultation (Berkovitz, 1980; Kellam, Branch, Agrawal, & Ensminger, 1975; Nichol, 1974). The question of reentry of hospitalized patients into public school programs, however, has received renewed interest (Ferdinande & Colligan, 1980; Lira & White, 1978). While some attention has focused on school variables related to successful outcome of psychiatric hospitalization or residential treatment (Abidin & Seltzer, 1981; Forness & Barnes, 1981; Forness, Cronin, & Lewis, 1981), there remain rather serious unresolved issues in terms of interagency communication and responsibility. For example, the psychiatric hospital's responsibility for public-school liaison is not at all clear (Forness, 1982); the diagnostic classification schemes of psychiatric and special education seem largely unrelated to one another (Barnes & Forness, 1981;

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Forness & Cantwell, 1982); and very few referrals for hospital or clinic services seem to originate in the schools (Forness, Urbano, Rotberg, Bender, Gardner, Lynch, & Zemanek, 1980).

For this reason, it seems imperative that further examination be made of the role of the psychiatric hospital as an adjunct in the schooling of children or adolescents with behavior disorders. One way to address the problem is to examine the effect of psychiatric hospital admission on the educational status of behaviorally disordered children or adolescents. Does psychiatric hospitalization in fact lead to effective changes in classroom placement for certain children or adolescents and if so, are there certain variables which relate to such a change in status? The present study addresses, in effect, the "diagnostic role" of a psychiatric hospital within the educational system (Forness, 1983).

The study was conducted in a psychiatric hospital in which the inpatient school staff function as liaison to public school districts and in which particular care is given to providing public school personnel with extensive diagnostic information on each child or adolescent returned to public school settings. Data were gathered on the type of classroom or special education program each subject attended, if any, prior to admission, and on the classroom or program to which each subject was referred upon discharge. For a subsample of children, follow-up data were obtained on adjustment to their discharge classrooms as a measure of the efficacy of these classroom placements by hospital teachers.

METHOD

Subjects were selected from a population of 210 children and adolescents hospitalized over an 8-month period during the 1980-81 school year. Each subject was admitted to one of four child inpatient wards of the UCLA Neuropsychiatric Institute (NPI) for short-term treatment or evaluation of serious emotional or behavior disorders. Some subjects also had other developmental problems as well, including speech handicaps, learning disabilities, mild mental retardation, or seizure disorders. In such children or adolescents, the behavior or emotional problem was nonetheless the *primary* reason for admission.

Of the total 210 subjects admitted over the study period, complete test results and classroom placement data were available on only 80 subjects. Comparison of these subjects with the remaining 130 subjects, in terms of age, sex, and IQ, did not reveal any systematic bias in sample selection. Description of the selected sample in terms of age, intelligence, and reading achievement (CTBS total reading score) is presented in Table 1. For more precise illustration of age and functional levels, these data were presented both according to the total sample and by placement in the various NPI classrooms described below.

Of the sample 60% were males. While there was a relatively equal distribution of sexes in the two adolescent classrooms, the percentage of males reached nearly 70% in the two classrooms for younger children. Note that both early childhood and first secondary classes contained children with lower mean IQs. The elementary classroom, in contrast, contained more children in the gifted range, thus accounting for a relatively high level of mean achievement in that group. Children in the second secondary class

TABLE 1

Educational Levels of Subjects by NPI Classroom

NPI Class	N	Age			IQ			Reading Achelvement		
		Mean	Range	SD	Mean	Range	SD	Mean	Range	SD
Early Childhood	18	7.9	(6.2 - 12.3)	1.6	78.1	(42 - 117)	21.4	1.5	(K.5 - 5.9)	1.4
Elementary	22	11.2	(9.2 - 12.9)	1.0	106.0	(87 - 135)	13.5	6.6	(3.3 - 12.2)	2.8
Secondary 1	16	14.5	(11.9 - 18.9)	1.8	85.4	(40 - 133)	23.3	5.5	(1.8 - 12.9)	3.6
Secondary 2	24	15.2	(12.9 - 17.7)	1.4	97.1	(62 - 118)	13.2	8.8	(4.0 - 13.6)	3.4
Total	80	12.3	(6.0 - 18.9)	3.2	92.9	(40 - 135)	20.4	5.9	(K.5 - 13.6)	3.9

were achieving at a mean level somewhat below what might be predicted on the basis of their ages and mean level of IQ. Considerable variability, however, is evident in each classroom group.

A complete description of the hospital treatment program and school approaches is provided by Fo.ness (1977, 1978); but for purposes here, it should be mentioned that psychiatric treatment on the ward was individualized for each child and included a combination of short-term psychodynamic, family therapy, and behavioristic treatment approaches. Each child was given from two to three therapy sessions each week by psychiatry residents in training, including a family therapy session with a staff social worker. Nursing staff used behavioral approaches for management of social behavior on the ward, and each child attended some four to six sessions of occupational and recreational therapy each week. The hospital school program was based on individualized instruction in a group setting with behavioristic approaches for motivation and management of classroom behavior. Children attended 3 hours of school daily from 9 to 11 a.m. and 1 to 2 p.m. Some 60 to 70 children were enrolled in the school at any one time over the study period.

The inpatient school was divided into four classroom units. Children and adolescents were placed in these classrooms based on results of a standardized achievement test, The Comprehensive Test of Basic Skills (CTBS). The *early childhood* classroom served a variety of handicapped children, aged 4 to 12 years who functioned at kindergarten or beginning primary levels. There was an *elementary* classroom for mildly handicapped children, aged 6-12 years, who functioned at 1st to 6th grade levels. There were two adolescent units: the *first secondary* classroom for adolescents functioning at 1st to 6th grade levels and the *second secondary* classroom for more mildly handicapped adolescents academically capable of junior high or high school level work.

As each child or adolescent was admitted to a hospital ward, NPI classroom teachers recorded basic data on past school placements in regular or special classes, administered the CTBS to determine NPI classroom assignment, and requested additional intelligence testing from the ward psychologist. IQ tests administered were the WISC-R or WAIS. Length of stay averaged between 2 to 4 months during the study period. NPI teachers had relatively complete responsibility for determining the appropriate community classroom placement to be recommended upon discharge, including final NPI School reports and attending public school IEP meetings or assisting parents in such meetings. The actual classroom placements secured for each child or adolescent were obtained from NPI teacher records. Since NPI serves some 100 or more different school districts with various nomenclature for special programs, classroom placements were classified according to the following scheme:

1. fulltime placement in regular class with no ancillary services;
2. regular class placement with resource room, consulting special teacher, speech therapy, or other ancillary services;
3. primary placement in special class for the learning handicapped (LH), which in California includes learning disabled, behaviorally disordered, and mildly mentally retarded children;
4. fulltime placement in special class for the severely handicapped (SH),

which in California includes seriously emotionally disturbed, moderately to severely mentally retarded, and severely speech or language handicapped; and

5. residential or hospital school placements.

As a measure of the adjustment of each child or adolescent to the postdischarge classroom, and hence as a measure of the efficacy of the NPI placement recommendation, follow-up ratings of postdischarge classroom performance were obtained. Forms were mailed to his or her receiving classroom teacher in the public school after the child or adolescent had been discharged for at least 1 month but less than 3 months. These forms were approved by the UCLA Human Subject Protection Committee, and informed consent letters were signed by parents or guardians at time of admission. The forms contained rating scales upon which the community classroom teachers could make two overall ratings of the child or adolescent's academic and social adjustment in their classroom at that point. The teachers were asked to rate the student on a 5-point scale in both academics and socialization relative to other students in the same classroom. The 5 points on each scale were (a) much worse than, (b) slightly worse than, (c) about the same as, (d) slightly better than, and (e) much better than the average student enrolled in the placement classroom. Stamped, self-addressed envelopes were included for returning these rating forms to the hospital. (Copies of the forms and consent letters are available upon request.) All analyses were done using the Statistical Analysis System (SAS Institute, 1979).

RESULTS

Mean length of hospitalization for the sample was 3.03 months. This ranged from 2 weeks to 9 months (SD = 1.8 months). This did not appear to vary by classroom though differences did approach statistical significance (F = 2.62, 3/76 df, $p<.06$) mainly because the mean length of stay for early childhood subjects was half a month below the group mean.

Table 2 contains data on the number of subjects in various class placements before and after hospitalization. Some 49 subjects, 61.2%, changed educational classifications as a result of NPI teachers' recommendations during hospitalization. In every case but one, this represented a change from a less restrictive to a more restrictive classroom environment, e.g., from regular classroom to regular classroom with resource assistance or from a learning handicapped to a severely handicapped classroom. Overall nearly two-thirds of the sample entered the hospital from regular classrooms with no special assistance but only 1 in 5 of the 80 subjects were returned to regular classes without need for further assistance. These were mainly subjects in the elementary and upper secondary classrooms. Resource room placements were used rather sparingly, less than 15% of the time. Placement in special classes for the mildly or learning handicapped nearly doubled as a result of hospital evaluation, and increased tenfold for the severely handicapped. The need for residential school placements occurred almost exclusively in the upper secondary classroom. These changes in special education placement did not appear to vary by NPI

TABLE 2

Classroom Placements at Admission (Pre) and Discharge (Post)

NPI Classroom	N	Regular		Resource		LH		SH		Residential		Percent Who Changed
		pre	post	pre	post	pre	post	pre	post	pre	post	Designation
Early Childhood	18	9	2	2	1	6	12	1	3	0	0	61.1%
Elementary	22	17	6	0	2	5	11	0	3	0	0	54.5%
Secondary 1	16	9	1	3	3	4	8	0	3	0	1	87.5%
Secondary 2	24	17	7	3	5	3	4	0	1	1	7	50.0%
Total	80	52	16	8	11	18	35	1	10	1	8	61.2%

classroom though differences did approach statistical significance (chi square = 6.342, 3 *df*, $p<.096$).

To determine if special education placement at discharge was perhaps related to intelligence or severity of behavioral problems, two further analyses were conducted. Analysis of covariance revealed that postdischarge special education placement did not appear to vary among NPI classrooms even when adjusted for IQ ($F = 0.21$, 4/74 *df*, $p<.89$) though the covariate of IQ itself approached statistical significance ($p<.056$). A second analysis involved psychiatric diagnoses of each child rated along a 5-point scale of severity (from psychoses to conduct disorders)as developed by Barnes and Forness (1981). Analysis of covariance adjusting for this severity rating also revealed that postdischarge placement did not seem to vary among NPI classrooms ($F = 0.65$, 3/75 *df*, $p<.59$).

Follow-up data were only obtainable in one classroom, the elementary classroom. It should be noted that many parents were understandably reluctant to sign consent letters allowing NPI to contact their child's postdischarge school because of fears of possible stigma associated with psychiatric hospitalization. Thus, relatively few of the total subjects' teachers in other classrooms were contacted after discharge. For 22 total elementary subjects, 17 forms were signed, and 10 of these were returned from public school teachers. The data on these 10 elementary classroom subjects are therefore presented for purposes of illustration.

It should be noted that the 10 subjects for whom follow-up data were collected did not differ significantly in age, IQ, or postdischarge special education placement from the remaining 12 subjects in the elementary classroom sample (*t*'s = -0.978, -0.736, and 1.71, respectively, for age, IQ, and severity of special education placement rating). They thus appeared representative of the total elementary classroom sample. On the 5-point rating scale, the mean ratings by postdischarge classroom teachers of these children were 3.6 for academic achievement ($SD = 1.2$) and 2.9 for social adjustment ($SD = 1.5$). This suggests that postdischarge classroom placement teachers rated these NPI children very near or even slightly above the norm for other children in their classroom. In other words, these children were seen as "average" pupils compared to other children in the same classroom in which they were placed after discharge from NPI; however; these classrooms represented a combination of three regular and seven special classrooms.

DISCUSSION

The reader must first be cautioned to view these findings as preliminary in nature, since there were certain unavoidable limitations in the research design. There was, for example, no control group of nonhospitalized subjects against which to compare changes in special education placement, over the same 3-month average period. The four classroom subgroups depicted in Table 1 were, furthermore, unique to this setting and were largely noncategorical in nature. They were used herein simply to illustrate the nature and range of subjects in each classroom during hospitalization. The lack of adequate follow-up data in three of four groups does not allow one to conclude that postdischarge classrooms were indeed correctly recommended. If one bears the limitations of such a quasi-experimental

design in mind, however, it is clear that certain interesting questions for further research suggest themselves and certain possible uses of future psychiatric hospitalization can be discussed in tentative fashion.

If one views the psychiatric hospital as an adjunct to the school diagnostic system, results of the present study suggest that children or adolescents indeed change their diagnostic classification in the schools after such hospitalization. Some three out of five pupils changed designations; and in nearly every case, this change in status was in a downward direction, i.e., from less restrictive to more restrictive educational environments. One might argue that psychiatric hospitalization should "cure" or ameliorate pupils' problems and thus result in improved levels of school functioning. Whether hospital treatment longer than the 3-month average, as obtained herein, would result in higher levels of school functioning and therefore less restrictive environments is not clear. Such speculation remains an open question in available literature (Gossett et al., 1973). Most psychiatric hospitals, partly because of funding which is tied to limited third-party health payments, have increasingly shorter lengths of stay (Forness, 1983). Given such limits on psychiatric hospital care, educators might more reasonably look to psychiatric hospitals as centers for evaluation or short-term treatment. Recommended interventions would then have to be carried on after discharge by staff in community agencies, including the schools.

It is interesting to note that change in special education classification did not appear to vary by NPI classroom placement, as defined herein, or by IQ or severity of behavioral problem. One is initially tempted to conclude that admission to a psychiatric hospital leads to lower levels of classroom functioning. There is no doubt that psychiatric hospitalization appears to bring children or adolescents to the attention of special educators. While some two-thirds of the sample entered the hospital from regular classes without special assistance, only one-fifth returned to such situations. A great many pupils appeared to require self-contained classrooms after discharge. Some adolescents in particular even needed residential school placement. Whether special education placement is actually required or whether the stigma of psychiatric hospitalization leads to lowered expectations or self-fulfilling prophecies is an area which needs to be examined. The follow-up data, albeit limited, tended to show that public school teachers nonetheless judged these pupils as relatively well placed in their postdischarge classrooms, at least compared to their regular or special classmates against whom they were judged. The possibility that these children were still in the well-known "honeymoon" period of adjustment cannot be discounted here, however.

While there was a tendency for postdischarge school placements to be related to the pupil's classroom needs during hospitalization, this trend was not found to be statistically significant. The approach to assigning children or adolescents to NPI classrooms is essentially a noncategorical one based on each pupil's various educational needs (Forness, 1977, 1978). There was a trend toward less restrictive postdischarge classroom environments for those pupils in the elementary and secondary 2 classrooms. These two classrooms were characterized by somewhat higher mean levels of intelligence, as suggested by the fact that the IQ covariate approached significance, and by higher achievement. Both classrooms are intended for child-

ren and adolescents, respectively, who are ready to function in regular classroom settings. As indicated previously, classroom assignment is based at least initially on the basis of achievement levels; and classroom functioning is assessed continuously over the entire course of hospitalization. Children in the other two NPI classrooms tended, correspondingly, to be placed in more restrictive school settings.

An important aspect of each pupil's transition to public school settings is the liaison effort between hospital teachers and public school personnel, in the form of extensive school reports, participation in IEP meetings, and the like. It may well be that effectiveness of psychiatric hospitals, as part of an overall system of diagnosis and treatment of children or adolescents with school problems, depends on closer integration and coordination with public schools. Results of the present study suggest that significant changes in school status do occur as a result of psychiatric hospitalization and that school personnel would do well to be aware of the specific role and of the limitations of psychiatric hospitals as an adjunct to educational intervention.

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Levels and Combinations of Metal Pollutants and Measures of Behavioral Disturbance

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ABSTRACT

The present study investigates possible relationships of metal levels and metal combinations to measures of childhood behavioral disturbance. Hair-metal concentrations of lead, arsenic, mercury, cadmium, aluminum, nickel, and beryllium in emotionally disturbed children (N = 22) were compared to those hair-metal levels in a control group (N = 25). Each child was also rated on the Walker Problem Behavior Identification Checklist (WPBIC). The group of disturbed children had significantly higher hair-lead levels. Analyses revealed significant positive correlations between lead and cadmium and the WPBIC scales measuring distractibility and total score, while aluminum levels achieved positive significance with scales measuring acting-out, distractibility, and total score. Mercury levels also achieved positive significance with the distractibility scale. Metal combinations were significantly and positively related to the acting-out, withdrawal, and distractibility scales. It is concluded a continuing reexamination of metal poisoning concentrations is needed because levels and combinations of metals previously thought harmless may be associated with behavioral disturbances in children. Implications for educators are discussed.

Children exposed to toxic amounts of lead and other metal pollutants are subject to severe behavioral disorders resulting from damage to the central nervous system (Byers & Lord, 1943; Pfeiffer, 1975). It remains to be determined whether subtoxic metal levels are an etiologic agent in behavioral disorders. Subtoxic lead levels previously thought harmless are now being associated with childhood behavioral disorders (David, Hoffman, & Sverd, 1976; Marlowe & Errera, 1982; Needleman, Gunnoe, Leviton, Reed, Peresie, Mahler, & Barret, 1979). Although not examining behavioral disorders, previous investigations have linked subtoxic cadmium levels to childhood intellectual decrements (Marlowe, Moon, Errera, & Stellern, 1983) and subtoxic aluminum levels to childhood learning disabilities (Capel, Pinnock, Doral, Williams, & Grant, 1981). Additionally, some investigators have hypothesized that metal-metal combinations may have an additive or multiplicative effect, thereby increasing the total toxicity of the child's system (Marlowe, Folio, Hall, & Errera, 1982).

The amount of heavy metals in the environment is increasing as society engages in its mechanized technological way of life. Undue exposure to lead in particular has been demonstrated to be a major pediatric health problem. Data from the Environmental Health Services Division, Center for Disease Control, indicate that from 1973 to 1978 among 2,380,942 children screened by projects funded under the Lead Based Paint Poisoning Prevention Act 162,580 had elevated subtoxic lead levels and 20,944 were diagnosed as lead poisoned. Since nationwide screening began, lead poisoning in children has declined, but elevated subtoxic lead levels remain prevalent. Some urban areas report the condition in 20% of the children screened (Lin-Fu, 1979). Although conceived as primarily an urban concern, children living in rural areas are not spared from this health problem. A survey of 135 rural children from the Upper Cumberland Region of Tennessee revealed that 25% had elevated subtoxic lead levels (Marlowe et al., 1983).

This study had three major purposes. The first purpose was to compare lead levels in a group of emotionally disturbed children to a control group. The second purpose was to compare arsenic, cadmium, mercury, aluminum, nickel, and beryllium levels in the groups. No previous research has examined these metals in emotionally disturbed children. The third purpose was to explore relationships between individual metal levels and metal combinations and teachers' ratings of the children on the Walker Problem Behavior Identification Checklist (Walker, 1970).

In this study metal levels were determined via hair samples and atomic absorption spectroscopy. Numerous investigations worldwide have shown concentrations of lead and other heavy metals in the hair provide an accurate and relatively permanent record of exposure, and there is a strong correlation between concentrations in hair and concentrations in internal organs (Kyle & Pease, 1967; Schroeder & Nason, 1969)

METHODS

The 47 subjects in this study were drawn from five elementary schools (K-6) in the rural Wyoming counties of Albany and Laramie. In the five schools 22 emotionally disturbed children were randomly selected. All emotionally disturbed children were receiving special education services. Their diagnosis of emotional disturbance was based on an overall evaluation from a series of consultations by school psychologists, classroom teachers, and other appropriate specialists where indicated. None of the children's school records contained a known or highly probable medical reason for emotional disturbance (e.g., brain injury, metal poisoning).

Psychoeducational data used in diagnosing each child included the administration of an individualized intelligence test, the referring classroom teacher's completion of a standardized behavior problem checklist rating form, the teacher's observations of classroom behavior including direct measurements, and clinical impressions of subject's emotional development. Of the 22 children selected, 12 were classified as having conduct problems, 7 were classified as exhibiting immature-inadequate behavior, 2 were classified as having personality problems characterized by low self-esteem, social withdrawal, and dysphoric mood, and 1 child was classified as being socially delinquent.

The control subjects (N = 25) were randomly drawn from the general

TABLE 1

Demographic Characteristics of Two Groups of Children

	N	Sex M/F	Age (yr.) Mean ± S.D.		Range	Ethnic Group Caucasian	Other	Socioeconomic Group Mean ± S.D.	
Emotionally disturbed group	22	18/4	8.72	1.51	6-12	18	4	3.13	1.03
Control group	25	19/6	8.44	1.73	6-12	18	7	2.80	0.96

Children in each group came from social classes 1, 2, 3, 4, and 5 as defined by Hollingshed and Redlich (1958).

school population at the five schools. Interviews with their classroom teachers indicated each child displayed average or above average classroom behavior.

Table 1 shows the relevant demographic data for the two resulting groups of subjects. There were no significant differences betwen the groups in socioeconomic status or in the age, sex, and ethnic group distributions.

Procedure and Instrumentation

Classification of metal levels. A small sample of hair (about 400 mg) for trace mineral analysis was collected from each child participating in the study. Hair samples were collected from the nape of each child's neck, as close to the scalp as possible, by the senior researcher using stainless steel scissors. These samples were submitted to a state and Center for Disease Control licensed clinical laboratory where they were analyzed with three instruments — the atomic absorption spectroprotometer, the graphite furnace, and induction-coupled plasma torch — to determine seven toxic metal levels. The seven toxic metals for which they tested were lead, arsenic, cadmium, mercury, aluminum, nickel, and beryllium. Precise laboratory techniques are always used to assure reliability of results and to meet reproducibility requirements.

1. A blind sample is run from the initial steps through the entire procedure to assure reproducibility of methods.
2. At least one of every three tests is a standard. Working standards are made to assure proer values.
3. The in-house pool is completely remade and analyzed monthly to eliminate the possibility of precipitating elements and to assure reproducibility.
4. Temperature and humidity are controlled to assure reliability and consistency of the testing instruments.
5. The hair samples are weighed to the thousandths of a gram (.001 g is equal to approximately four hairs, 1 inch [.0254 m] long); only Volumetric Flasks, the most accurate available, are used for diluting the ashed sample.
6. Lot-number control sheets for all reagents are used to assure uniformity. Records are kept and available for inspection.
7. All glassware is acid washed in-house before use and between each use, including acid prewashed disposable test tubes.
8. The water used is virtually mineral free, rated at 18+ megohms.
9. Upon receipt, the hair sample is washed thoroughly with deionized water, a non-ionic detergent, and an organic solvent to remove topical contaminants.

Reports summarizing the findings of the hair analysis for each subject were received from the laboratory subsequent to analysis. Each report listed both the observed metal levels and the suggested upper limit for each metal level, and plotted the levels in relation to their upper limits.

Walker Problem Behavior Identification Checklist (WPBIC). This checklist is a screening device designed for elementary teachers' use in selecting children with behavior problems who may need referral for further psychological treatment. The WPBIC consists of 50 observable operational state-

ments of classroom behavior that might limit a child's adjustment. Of the 50 items, 14 relate to acting out (aggressive and disruptive behavior), 5 relate to withdrawal (socially avoidant and passive behaviors), 11 relate to distractibility (poor attentiveness and restlessness), 10 relate to disturbed peer relations, and 10 relate to immaturity.

Standardized on 534 elementary age children, the mean raw total score is 7.76 with a standard deviation of 10.53. One standard deviation above the mean separates disturbed behavior from nondisturbed behavior.

In this study, classroom teachers were instructed by the senior researcher on how to fill out the scale. All teacher ratings were based on observations of the child's classroom behavior for the 2 months prior to hair collections.

TABLE 2

Distributions of Metal Concentrations in Two Groups

Metal	Statistics	Emotionally Disturbed *N* = 22	Control *N* = 25
Lead	Mean ± SD	15.31 ± 16.11**	8.64 ± 2.17
	Nonelevated < 15 ppm.	16	25
	Elevated	6*	0
	Range	6-81 ppm.	5-12 ppm.
Arsenic	Mean ± SD	2.92 ± 1.59	3.11 ± 1.29
	Nonelevated < 7 ppm.	21	25
	Elevated	1	0
	Range	0.82 - 7.43 ppm.	0.51 - 5.37 ppm.
Mercury	Mean ± SD	1.03 ± 0.70	0.90 ± 0.43
	Nonelevated < 2.5 ppm.	21	25
	Elevated	1	0
	Range	0.3 - 3.6 ppm.	0.2 - 1.4 ppm.
Cadmium	Mean ± SD	0.79 ± 0.54	0.59 ± 0.29
	Nonelevated < 1.0 ppm.	17	23
	Elevated	5	2
	Range	0.16 - 2.12 ppm.	0.16 - 1.57 ppm.
Aluminum	Mean ± SD	20.54 ± 23.76	13.52 ± 6.33
	Nonelevated < 30 ppm.	20	24
	Elevated	2	1
	Range	3 - 99 ppm.	6 - 32 ppm.
Nickel	Mean ± SD	1.01 ± 0.73	1.47 ± 1.53
	Nonelevated < 2.2 ppm.	20	20
	Elevated	2	5
	Range	0.006 - 2.45 ppm.	0.06 - 7.09 ppm.
Beryllium	Mean ± SD	0.0209 ± 0.019	0.023 ± 0.017
	Nonelevated < 0.10 ppm.	22	25
	Elevated	0	0
	Range	0.0000 - 0.0681 ppm.	0.0000 - 0.0518 ppm.

* $p < .01$

** $p < .05$

Note: All upper limits established by Doctor's Data, Inc. (1982)

RESULTS

The two groups of children were compared for hair-metal concentrations. As shown in Table 2 the mean lead concentration for the emotionally disturbed group was considerably above that of the control group. The disturbed group had a mean hair lead concentration of 15.31 parts per million (ppm.), while the control group had a mean hair lead concentration of 8.64 ppm. The data were then analyzed with the *t* test for two independent samples design of SPSS (Nie, Hull, Jenkins, Steinbrenner, & Brent, 1975) yielding a statistically significant *t* value (t = -2.05, 45, p<.05). Analyses of the other metals failed to show significant differences.

The distribution of metal concentration in the two groups is also shown in Table 2. Of the disturbed children, 6 were elevated in lead concentration while none of the control group were elevated (p<.01). None of the 47 children had hair metal levels associated with metal poisoning.

The two groups of children were next compared for behavioral scores on the WPBIC. The disturbed group scored significantly higher than the control group on four scales and the total WPBIC scale. Mean acting-out, distractibility, disturbed peer relations, and immaturity scores for the disturbed children were 10.77 (p<.01), 7.81 (p<.001), 4.45 (p<.001), and 4.13 (p<.001) respectively, compared to control group scores of 3.24, 3.24, 2.60, and 1.08. Mean WPBIC total scale scores were 29.86 for the disturbed group and 7.48 for the control group (p<.001) A total scale score of 21 or more is considered to denote disturbed behavior; thus, the disturbed group had a mean within the disturbed behavior range.

Because increased childhood lead levels are associated with lower socioeconomic status, the Partial Correlation Procedure of SPSS (Nie et al., 1975) was employed to measure the association between metal levels and WPBIC scores while controlling for socioeconomic status. Lead levels correlated significantly and positively with distractibility (.34, p<05) and total score (.31, p<.05), while aluminum achieved positive significance with acting-out (.26, p<.05), distractibility (.32, p<.05), and total score (.35, p<.05). Cadmium levels correlated positively and significantly with distractibility (.43, p<.01) and total score (.38, p<.01), and mercury levels achieved positive significance with distractibility (.34, p<.05). Arsenic, nickel, and beryllium levels did not correlate significantly with any of the WPBIC measures.

An investigation of the additive relations of the metals together with the multiplicative relations of those metals with the WPBIC measures was conducted. Each of the WPBIC measures was regressed on the complete set of metals first, then the complete set of product vectors in a hierarchical analysis. This approach was used to determine if the product vectors contributed significantly to the explained variance in each of the WPBIC measures, over and above the variance explained by the metals in an additive sense. The incremental increase resulting from the set of multiplicative effects was assessed using an *F*-test in Cohen and Cohen (1975).

The hypothesis of zero multiple correlation of the distractibility scale with additive metal combinations was rejected (F=2.408, p<.05). Lead, cadmium, aluminum, and beryllium in combination were significant. None of the other WPBIC measures achieved significant multiple correlations with additive metal combinations.

The hypothesis that there was no incremental increase in the variance accounted for due to the multiplicative effects of arsenic with the other metals was rejected for acting-out $F(=22,2) = 33.411$ ($p<.05$) and withdrawal F (22.2) = 57.340 ($p<.05$). About 59% of the variance in acting-out was accounted for by the set of additive metal effects. With the addition of the second set of multiplicative effects including arsenic, the explained variance increased to 99%, or about 40% attributable to the set of product vectors. The hypothesis of zero regression coefficients was rejected for the product vectors of arsenic with mercury ($t = -8.314$, $p<.05$), lead ($t = 7.572$, $p<.05$) and beryllium ($t = 12.804$, $p<.05$).

About 41% of the variance in the withdrawal scale was accounted for by the set of additive effects. An additional 58% of the variance was explained by the set of multiplicative effects. The hypothesis of zero regression coefficients was rejected for arsenic's multiplicative effect with lead ($t = -12.207$, $p<.01$) mercury ($t = 8.742$, $p<.01$), cadmium ($t = 10.399$, $p<.01$), aluminum ($t = -8.613$, $p<.01$), beryllium ($t = -21.756$, $p<.01$), and nickel ($t = 8.649$, $p<.01$)

Subsequent analyses examined the multiplicative effects of metals with cadmium, lead, mercury, aluminum, beryllium, and nickel. Of the six remaining metals, lead and aluminum revealed significant multiplicative effects, over and above nonsignificant additive effects for the withdrawal scale. Almost 60% of the variance in the withdrawal measure is explained by the addition of the product vectors involving lead and aluminum after the set of additive effects is taken into account. The multiplicative effects of lead were significant with mercury ($t = -282.78$, $p<.01$), beryllium ($t = 262.84$, $p<.01$), nickel ($t = 237.99$, $p<.01$), and arsenic ($t = 15.582$, $p<.05$). The multiplicative effects of aluminum with arsenic ($t = 32.586$, $p<.01$) were significant.

In summary, the distractibility scale revealed an additive relationship to the combination of lead, cadmium, aluminum, and beryllium, while the acting-out scale revealed multiplicative relationships with arsenic, and the withdrawal scale revealed multiplicative relationships with arsenic, lead, and aluminum.

DISCUSSION

The data of this study do not establish a causative relationship but show an association between metal and metal combination concentrations and behavioral deficits in children. Disturbed children had significantly higher lead levels. Correlational data indicated that increases in lead, cadmium, aluminum, and mercury were associated with significantly higher scores on various WPBIC measures, and regression data indicated that metal combinations were significantly related to increased scores on acting-out, withdrawal, and distractibility.

The relationships reported here between metal levels and WPBIC measures support the body of literature on low-moderate metal exposure and childhood behavioral disorders. Despite the occasional appearance in the literature of a negative study, the data on low level lead toxicity have been sufficiently convincing that the United States Environmental Protection Agency (1973) concluded that "surprisingly low levels of blood lead can at times be associated with the most extreme effects of lead poisoning, includ-

ing severe irreversible brain damage," and further that "evidence tends to confirm that some type of neural damage does exist in asymptomatic children and not necessarily only at very high levels of blood lead."

The data of this study indicate the continuing need to reexamine metal poisoning concentrations, because concentrations and combinations of metals previously thought harmless may now have to be considered metal poisoning and viewed as an etiological factor in neurobehavioral dysfunctions. Lead is the only metal that has even been marginally examined for low level effects, and this study is the first investigation into metal combinations' relationship to behavioral variables in children.

The behavioral disorders described in clinical and experimental metal poisoning are extremely variable and complex. The data of this study also demonstrate such variability and inconsistency, inasmuch as WPBIC scales measuring such oppositional behaviors as acting-out and withdrawal correlated significantly with metal combinations. It may be one should consider the nature of metal induced changes as a randomization of behavioral responses or as a generalized hyperreactivity. This hyperreactivity would be situation-dependent and highly responsive to sensory stimuli, which might account for the variability reported in this and other behavioral studies.

This study is limited by its modest *N* of 47 and by the possibility that characteristics not identified differentiated the children (e.g., perinatal, genetic, and socioeconomic variables). Also, it is not known why disturbed children had significantly higher lead levels than control children when they came from similar neighborhoods. Metabolic variations in the absorption and retention of metal pollutants, dietary deficiencies, or differential exposure are possible factors contributing to this difference, as well as to individual differences in other metal levels in the total sample population.

Implications for Educators

Special educators and other school personnel can play a significant role in the detection of metal pollutant exposure in children through awareness of its symptoms. These include irritability, listlessness, anemia, clumsiness, loss of appetite, headaches, and chronic abdominal pain. Since such symptoms are also associated with other illnesses (e.g., viral infections, allergies), educators should also be aware of factors making a child a high-risk candidate for metal pollutant exposure. These include living in dilapidated substandard housing which often contain peeling lead-based paint and plaster as well as leaded household dust, residential proximity to heavy traffic patterns and/or smeltering emissions, inadequate nutrition, and having the habit of pica. Teachers can have parents complete the Metal Exposure Questionnaire (Marlowe, 1983) in order to obtain quantifiable information about the child's habits and metal exposure in his/her environment.

Children presenting symptomatology of metal pollutant exposure, and whose habits and environment pose substantial metal risks, should be screened to determine the seriousness of their exposure. Initial testing for the presence of metals can be detected through blood or hair specimens.

Educational management of metal exposure involves family education to reduce risk by hazard abatement and by improved nutrition. Also, teachers should develop behavior management program to eliminate pica in chil-

dren and they should introduce health curriculum on metal exposure prevention.

Any child with evidence of increased metal absorption should be checked at regular intervals to determine any neurological or behavioral dysfunction that may ensue and to prevent further exposure. Metals are ubiquitous in the modern environment and likely to remain a hazard to the intellectual/behavioral functioning of children in the forseeable future.

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The Effects of Medication and Curriculum Management on Task-Related Behaviors of Attention Deficit Disordered and Low Achieving Peers

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ABSTRACT

This study investigates the effects of stimulant medication, controlled instruction, and regular instruction on subgroups of attention deficit disordered (ADD), low achieving (LA), and average achieving (AA) peers. Performance measures were recorded across regular and controlled instruction conditions on three task-related behaviors: on-task, task-completion, and task-comprehension. Findings show that neither the completion nor comprehension rates of ADD subjects were significantly effected during regular instruction due to medication; only on-task behavior appeared to be positively affected. The controlled instruction condition, however, significantly enhanced all three task-related behaviors, an affect that was also observed for the LA subjects. Performance scores for both ADD and LA subjects were significantly higher during the controlled as opposed to the regular instructional setting for attending, completing and comprehending behaviors and were similar to the standards of performance set by the AA subjects. Controlled instruction apparently facilitated a more acceptable instructional match resulting in a greater overall compatibility between the subjects' abilities and the demands of their instructional tasks. This combination permitted more optimal rates of behavior among subjects having learning and attention problems.

Children from widely different backgrounds with markedly different skills often share common patterns of behavioral and learning failure associated with their lack of school achievement. For many, a common procedure for dealing with their excess behaviors has been to prescribe medication (particularly stimulant medication), hoping that its use will both increase and stabilize attending behavior and lead to successful classroom performance.

Yet in spite of almost 50 years of experience with stimulant drug use, a controversy still exists regarding its effectiveness for children having learn-

ing problems, particularly those termed hyperactive. Attitudes regarding the use of stimulant medication are characterized by statements ranging from those describing it as the most effective and best documented method for the treatment of hyperactivity in children (Eisenberg, 1972) to Walker's (1975) position that virtually no child in regular public schools should receive stimulant medication for the control of behavior. Unfortunately, schools are caught in the middle of this controversy since the symptoms that characterize hyperactivity (i.e., attention deficits, impulsivity, and distractibility) also interfere with the instructional performance of the child while hindering the teacher's efforts to teach all children within the classroom.

Even though the effects of medication have been researched extensively, it remains to be seen as to whether or not these effects actually make a difference on the student's academic performance. The purpose of this study was to address this basic question. More specifically, the study looked at the contributing effects of medication on students engaging in specific academic tasks. An instructional treatment alternative was also presented which provided for a more systematic control in the presentation of learning tasks. The goal was to determine which treatment provided the most optimum condition for student learning and related behaviors.

It has been reported that stimulant medication produces positive changes in activity level, distractibility, and impulsivity (Barkley & Cunningham, 1979; Douglas, 1972; Werry, 1968). The beneficial effects of stimulant medication have also been reported for attention span or sustained concentration (Gadow, 1981; Krager & Safe, 1974; Sprague & Sleator, 1977; Ullman, Barkley, & Brown, 1978). The combined research results, however, have not resolved the critical issue of whether or not drug therapy favorably influences school achievement. Rie (1975) stated quite succinctly that, while stimulant medications may help children become less active, less distractible, and less disruptive, they do not teach.

Various authors (Gadow, 1980; Rie, 1975; Sulzbacher, 1973; Whalen & Henker, 1976; Wolraich, 1979) have suggested that teachers may only assume academic gains based upon improvements in classroom behavior, gains which may never have materialized. Teachers appear to perceive that academic gains accompany the use of medication for certain children; these perceptions, however, do not usually appear warranted since the only measures used to rate student progress have been teachers' responses to questionnaires. More objective approaches have revealed that few positive short-term or long-term academic advantages have been made or maintained through the use of medication (Barkley & Cunningham, 1978).

An adjoining issue presented by these authors (Cunningham & Barkley, 1978) confirmed that interventions aimed at increasing the child's level of success on classroom tasks are likely to result in corresponding reductions of hyperactive behavior while improving the child's academic achievement. If the difficulty of the instructional material can be controlled to match a student's skills, then the possibility exists of increasing both appropriate classroom behavior and task success. In summary, medication does not equal academic achievement, whereas successful performance in academic areas leads to improved academics and improved behavior.

Gickling and Armstrong (1978) have already shown that when students

were functioning on appropriate instructional levels within their assigned school work, as opposed to independent levels (too easy) or frustrational levels (too hard), their rates of attending, completing, and comprehending school assignments were consistently high. The results of this study implied a strong relationship between academic success and appropriate classroom behavior. The performances of the subjects suggested that appropriate curriculum choices were antecedents to appropriate classroom conduct and not vice versa.

A key ingredient is the ability to control the level of difficulty of instructional tasks in order to provide sustained success. Unfortunately, this condition is not always available for students receiving medication. Under classroom conditions, academic performance is frequently masked and teacher impressions placated by the overt effects of medication at the expense of actually enhancing learning.

DESCRIPTION AND PROCEDURES

In order to investigate the effects of stimulant medication and an alternative controlled curriculum system, three groups of children were identified: attention deficit disordered with hyperactivity (ADD), low achieving peers (LA), and average achieving peers (AA). The first group of subjects received both medication and no-medication under regular and controlled treatment conditions; the second group of subjects (LA children) received only the regular and controlled instruction treatments; the third group of subjects (AA peers) received only the regular instructional program, thus providing a base or standard for comparison of what constituted typical and acceptable classroom rates of performance.

STATEMENT OF THE PROBLEM

This study addressed three basic questions involving three directly observable classroom performance variables for three different groups of elementary-school-age children. The questions were as follows:

1. Were there significant differences in task-related behaviors between subjects identified as having attention deficit disorders with hyperactivity (ADD), subjects identified as low achievers (LA), and those identified as average achievers (AA) across the various treatment phases?
2. For the ADD population only, were there significant differences between the subjects' performances on task-related behaviors while on medication (M), or off medication (NM), under regular and controlled instructional conditions?
3. Did this specific controlled instructional (CI) approach, used to modify individual assigned tasks to meet the skills of each subject, significantly improve task-related behaviors of both DD and LA subjects?

SAMPLE POPULATION AND PERSONNEL

Subjects

The subjects were 18 elementary school children from six classrooms in the Washoe County School District in Reno, Nevada. This number was limited, because there were only 6 children who met the criteria of ADD with

hyperactivity whose physicians [illegible]nts, and teachers agreed to their participation in the study. The ADD subjects met the definition by the American Psychiatric Association (1980) as those children who displayed excessive motor activity for their age as well as attentional difficulties and impulsivity. Children with this disorder are further described in school as having a short attention span, as being impulsive and distractible, as failing to follow through on instructions and complete work, and as being disorganized and inattentive. In addition, the children are reported to be fidgety, restless, overactive, overdemanding of the teacher's attention, and disruptive of others at play and at work.

In each of the six participating classrooms, 2 other students, an LA and AA peer, were also identified for participation in the study. Each was selected by his or her respective classroom teacher. The low achievers were selected based upon their inadequate classroom achievement, meaning that their performances were substantially below that of the normally functioning level of their average achieving peers. The average achieving subjects were selected from a random sample of the classroom populations achieving at grade level. Students who were identified as either gifted or handicapped were omitted.

Trained Observers and the Curriculum Manager

Three special education majors at the University of Nevada-Reno were trained and paid as subject observers. High interrater reliability on the three task-related variables was established among the observers before observing the 18 subjects.

In order to provide for as much teacher consistency as possible during the controlled instruction treatment phase, the primary investigator (curriculum manager) developed specific instructional packages for the six classroom teachers to present to the 6 ADD and 6 LA subjects during each actual observation period. This helped to minimize teacher differences while assuring some external control over the difficulty of students' assignments.

RESEARCH PROCEDURES

This study investigated the effects of two different treatments, medication and controlled instruction, on the behaviors of two groups of subjects. A third group merely acted as a standard from which to compare normal classroom performance. In the case of the ADD subjects, they, their teachers, the observers, and the curriculum manager were blind regarding the medication/placebo conditions. As a double blind study, the conditions were arranged with an equal number of observations for medication and placebo intervals.

Medication and Placebo

Medication referred to stimulant medication, specifically Ritalin and Dexedrine, as prescribed by the child's pediatrician. Placebo referred to a no-effect pill which was prescribed by the child's physician and placed into capsules by the pharmacist so that they appeared identical to the medication.

The 6 ADD subjects had generally been on prescribed medication prior to the initiation of the study. The effective span of the medication was considered to be 4 hours with a peak effectiveness at 2 hours following ingestion. For this reason, each of the ADD subjects were observed as close to the 2-hour peak time as possible. There was also considered little or no residual effects produced by the medication past the 4-hour period, meaning that the effects of the medication were not likely to contaminate the no-medication phases of the study.

Controlled Instruction

Controlled instruction consisted of manipulating the curriculum to conform to specific ratios of known to unknown items per learning task. The purpose of controlled instruction was to keep the students' assignments at an instructional or independent level as opposed to a frustrational level. The ratios for these three levels were defined by Gickling and Armstrong (1978) as follows:

1. Instructional level — assignments containing a range of between 70 and 85% known items for seatwork activity and between 93 and 97% known items during reading. The range of challenge for these two types of tasks represented 15 to 30% and 3 to 7% respectively.
2. Independent level — assignments that contain more than 90% known items on seatwork activity or more than 97% known items in reading.
3. Frustration level — assignments containing less than 70% known items during seatwork and less than 90% known items during reading.

Research Design

Only ADD subjects received medication and placebo; both ADD and LA subjects received regular and controlled instruction. No treatment was

Subjects	**Treatments**			
Classrooms	Interval A	Interval B	Interval C	Interval D
1 - 6	Weeks 1-2	Weeks 3-4	Weeks 5-6	Weeks 7-8
ADD	M/RI	NM/RI	M/CI	NM/CI ....
LA	RI		CI	
AA	RI			
Observation Sessions	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4

Figure 1. *An outline of the 8-week experimental schedule.*

Observation and meanings:

M — Medication phase
NM — No-Medication
RI — Regular Instruction
CI — Controlled Instruction

given to the average achieving subjects. Figure 1 offers a visual picture of how the three groups of subjects were divided into the four 2-week intervals.

Treatment conditions for the ADD subjects were described as follows:

Interval A: M/RI. Medication was taken in the normal fashion with no changes in regular classroom instruction.

Interval B: NM/RI. A placebo (no-medication) was administered during regular phase of classroom instruction.

Interval C: M/CI. The ADD subjects received medication and controlled instruction during this phase of study.

Interval D: NM/CI. Controlled instruction was continued while medication was removed and replaced by placebo.

Treatment conditions for the LA subjects followed the same time-line as that of the ADD subjects. During Intervals A and B they were observed under regular classroom instruction conditions and during intervals C and D they were observed under controlled instruction conditions. No alterations of the regular instructional program were made for the AA subjects over the 8 weeks.

Data Collection and Instrumentation

A direct observation technique was used to collect the data on each subject. The purpose of obtaining direct measures of behavior was to determine present levels of functioning, not only for task engagement and task completion but also for understanding. The particular behaviors that were being measured are described below:

On-Task: On-task scores represented the percentages of time the subject was actually engaged in task-related behavior such as attending to his/her assignments. Scores were obtained by taking one 20-second sample per minute for a total of 20 observation frames per session.

Task-Completion: Completion scores were determined by the number of items attempted whether right or wrong. These scores represented the total number of response efforts made by each subject per task. The scores were not used to judge the subject's comprehension but merely measured the number of attempts over the total number of responses required per task.

Task Comprehension: Comprehension scores were determined by the sample items correctly identified and/or understood within each assignment. In each case, meaning or understanding of the component parts was the major factor for determining comprehension. Comprehension scores were obtained by directly questioning each subject on assigned tasks.

Data Analysis

Across Population Comparisons. Two-way analyses of variance with repeated measurements were used to determine the differences in the three observed behaviors across the three groups of subjects. Using a least significant difference test computed at .05 and .01 levels of probability, the mean scores were analyzed for significant differences.

Across Treatment Comparisons. One-way analysis of variance with repeated measurement was used to examine differences between direct observations across the four treatment conditions for the 6 ADD subjects.

For the LA subjects, the direct observations between the regular and controlled instruction settings were also computed using a one-way analysis of variance with repeated measures, but for only two factors. In all treatment comparisons, a least significant test was applied at the .05 and .01 levels of probability.

RESULTS

For the ADD subjects under regular instruction (RI) intervals, on-task mean scores were considerably higher with medication (76%) than without medication (55%). On-task mean scores during the controlled instruction setting (M/CI and NM/CI), however, were equally high with mean scores of 79 and 76%. There were no significant differences between the mean rates of on-task behavior during the two controlled instruction intervals (See Table 1).

TABLE 1

One-way ANOVA with Least Significant Differences Between Mean Scores for On-task Behaviors of ADD Subjects Across Four Conditions

	NM/RI	NM/CI	M/RI	M/CI
Comparisons	**54.5**	**76.2**	**76.3**	**79.0**
$\bar{X}_i - \bar{X}_{NM/RI}$	0	21.8**	21.9**	24.5**
$\bar{X}_i - \bar{X}_{NM/CI}$	0	0	.1	2.8
$\bar{X}_i - \bar{X}_{M/RI}$	0	0	0	2.7

*lsd (.05) = 11.7
**lsd (.01) = 13.6

Regarding task-completion and task-comprehension mean scores, significant differences favored the controlled instruction approach over regular instruction for the ADD subjects on both variables. It should be noted that the highest mean scores were achieved under conditions of CI/M, scores that were not significantly different, however, than those achieved under the CII/NM conditions (See Tables 2 and 3).

These tables indicate that medication had its strongest effect for attending or on-task behavior, but it did not significantly increase the rates of

TABLE 2

One-way ANOVA with Least Significant Differences Between Mean Scores for Task-Completion Behaviors of ADD Subjects Across Four Conditions

	M/RI	NM/RI	NM/CI	M/CI
Comparisons	**67.0**	**74.4**	**81.5**	**91.0**
$\bar{X}_i - \bar{X}_{M/RI}$	0	7.4	14.5*	24.0**
$\bar{X}_i - \bar{X}_{NM/RI}$	0	0	7.1	16.6**
$\bar{X}_i - \bar{X}_{NM/CI}$	0	0	0	9.5

*lsd (.05) = 13.4 **lsd (.01) = 15.6

TABLE 3

One-way ANOVA with Least Significant Differences Between Mean Scores for Task Comprehension Behaviors of ADD Subjects Across Four Conditions

	NM/RI	M/RI	M/CI	NM/CI
Comparisons	**69.8**	**73.1**	**91.1**	**92.3**
$\overline{X}_i - \overline{X}_{NM/RI}$	0	3.2	21.2**	22.4**
$\overline{X}_i - \overline{X}_{M/RI}$	0	0	18.0*	19.2*
$\overline{X}_i - \overline{X}_{M/CI}$	0	0	0	1.2

*lsd (.05) = 16.2
**lsd (.01) = 18.9

task-completion or task-comprehension when comparing the two phases of regular instruction or the two phases of controlled instruction. Conversely, controlled instruction had an equally positive effect on attending behavior plus the added effect of improving rates of completion and comprehension significantly.

For low acheiving subjects, significant differences were noted on all three behaviors favoring controlled instruction over regular instruction. These changes resulted in mean increases of 21% on-tasks behavior, 22% for rates of completion, and 9% on comprehension, changes, by the way, that were consistent with those already describing the performances of ADD subjects. For complete details, see Table 4.

TABLE 4

One-way ANOVA with Least Significant Differences Between the Regular Instruction and Controlled Instruction Setting for LA Subjects

Performance Variables	RI Mean Scores	CI Mean Scores	Gain Score	
On-task	57.3	78.6	21.3**	*lsd* (.05) = 10.7 *lsd* (.05) = 12.9
Task Completion	63.8	86.4	22.6**	*lsd* (.05) = 11.6 *lsd* (.01) = 14.0
Task Comprehension	82.2	91.2	9.0*	*lsd* (.05) = 7.8 *lsd* (.01) = 9.4

For the purpose of general classroom comparisons, the average achieving (AA) subjects had the highest mean scores across each of the three task-related variables when compared to ADD and LA subjects. Not only were the mean scores for the AA subjects consistently high for on-task, task completion, and comprehension (ranging from 79 to 95%), but there were no significant changes in their performance patterns from one week to the next. Their ranges of high performance coupled with a limited amount of fluctuation can be seen in Figure 2. These patterns of performance of AA

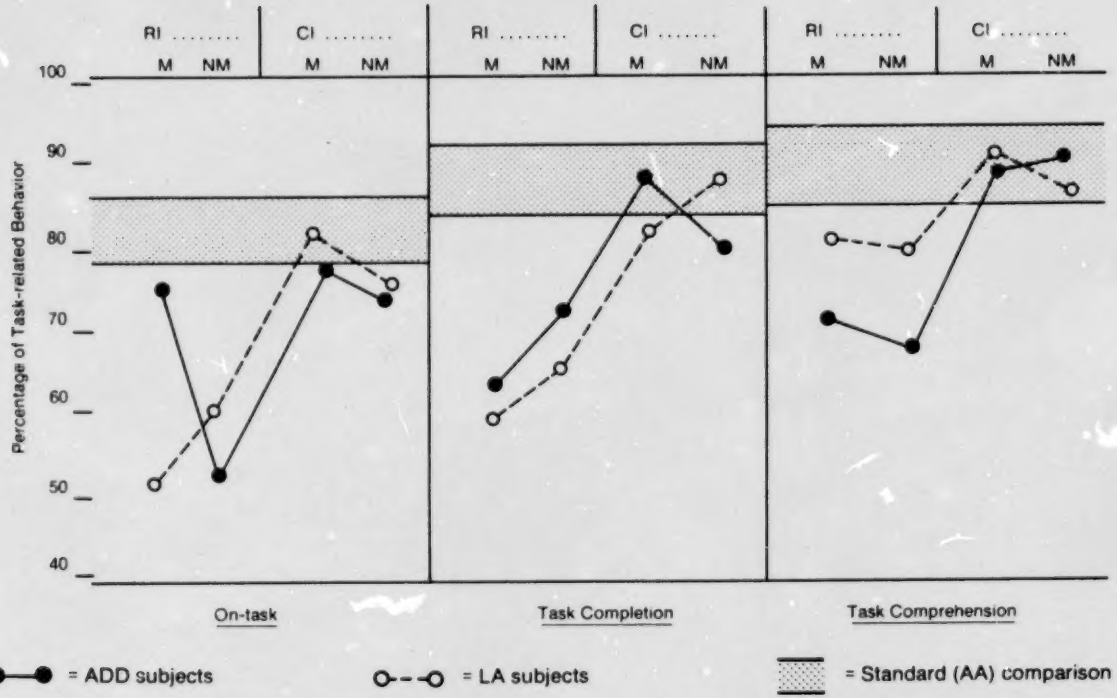

Figure 2. *Total mean score comparison for on-task, task completion, and task comprehension for ADD and LA subjects across Regular and Controlled Instruction.*

subjects provided one standard from which comparisons could be drawn between the ADD and LA subjects across treatments.

Under regular instruction conditions, both ADD and LA subjects showed considerable similarity in task-related performance on all variables, with the exception of on-task performance for the ADD subjects on medication. There were no significant differences in the performance patterns of these two groups of subjects with this one exception under regular instruction.

Interestingly enough, there were also no significant differences between the mean performance patterns of these two groups of subjects under controlled instruction conditions, meaning that the mean scores had risen substantially for both groups. During the controlled instruction condition no significant differences were observed between the ADD and LA subjects or between these two groups of subjects and their AA classmates as measured across the three task-related behaviors. This meant that the performance differences between the three groups as measured by percentages of task-related behavior had been minimized. The ADD and LA subjects were doing equally well on their assigned tasks as the AA subjects were doing on their assigned tasks.

DISCUSSION

Differences Between Subjects

Torgesen (1981) contended that attentive behavior is influenced by a variety of factors including understanding of the task and familiarity with and knowledge of the instructional materials. The present study supports this viewpoint in that, when assigned tasks were controlled so that the instructional difficulty matched the needs and abilities of the subjects, the performances of both the ADD and LA subjects increased drastically for on-task, task-completion, and comprehending behaviors. The improvements were such that no significant differences were noted between their performances and those of their average achieving peers. These results are not to imply that ADD and LA subjects were now performing at ability levels similar to their AA peers, but rather that their percentages of attending, task attempts, and degrees of task understanding were commensurate to average achievers once their instructional tasks had been modified to meet their learning needs.

Effects of Medication

It has been commonly reported that stimulant medication appears to alter the general activity level involved in producing more task-appropriate behaviors. The findings of this study confirm part of this contention. For ADD subjects, medication did appear to alter on-task behavior, but not other task-related behaviors, and only during regular instructional conditions. Medication did not appear to add to a student's ability to either complete his/her school work or to understand each assigned task.

Effects of Controlled Instruction

The specificity of controlled instruction did account for the altering of task-completion and comprehension rates. In fact, the technique had a

positive effect on all three task-related behaviors. Controlling the ratios of known to challenging items sufficiently to allow ADD and LA students to be successful with each prepared task apparently created learning environments conducive to higher rates of performance than available to them under regular instructional settings. Controlled instruction in combination with medication also resulted in high levels of task-related behavior. The removal of medication and the substitution of placebo, however, did not show any significant reduction in any of the three observed behaviors.

If lack of success can create poor performance (Reith, Polsgrove, & Semmel, 1981), then it is feasible to believe that weeks of success could create residual condition for promoting later habits of success. Mastering a technique which uses the student's curriculum itself to determine the types of changes needed in each assigned task would also suggest that the longer a curriculum manager (or for that matter, the teacher) is able to plan for and monitor a child's performance, the better he/she woud become at matching the curriculum tasks to the specific needs of each child. The long term effect of this type of effort should be sustained growth.

Rie (1975) has felt that teachers have been given an inactive role and that curriculum, at best, has been given only secondary consideration when helping the child on stimulant medication. This situation now appears to be changing. Levine, Brooks, & Shonkoff (1980) feel that for hyperactive and/or children with learning and attention problems, there needs to be a strong emphasis on remedial education. This emerging view is also shared by various medical practitioners who propose that education should be a central focus in the child's care. The results of this study add to this position, and more specifically to the position that successful management of curriculum tasks is a vital link in creating appropriate learning experiences for ADD and LA students.

CONCLUSIONS

Results of this study support the concept that it is the curriculum, the day-to-day instructional match between the child and the actual learning task at hand, that is most conducive to high rates of performance within the classroom. Whether in conjunction with medication, or singularly, ADD and LA subjects achieve higher task-related scores across all three observation variables when the curriculum match was consistently controlled.

The results of this study must be viewed as both initial and tentative. The limited sample size of 6 ADD subjects certainly necessitates the need for replication before any broad generalizations could be made. It must also be remembered that controlled instruction is one form of management, and cannot account for how a child might respond to different instructional and social situations. Therefore, these findings do not address the issue of using medication to stabilize behavior under other instructional conditions or outside of the classroom, as in the home or on the playground.

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The Why, What, and How of Affective Education

Louis F. Brown and Archie McKinnon

ABSTRACT

Opinions differ about why we need affective education, what it is, and how to implement programs. This paper explores these questions and suggests that affective education is a neglected area in the schools. There is a demonstrated need for more affective education and there are programs available for implementation. The research is inconclusive about the usefulness of affective education and there is a recognized need for more data. Progress has been made in programming and evaluation techniques that suggest support for affective education programs in the future.

Opinions differ about why we need affective education, what it is, and how to implement such programs. It may seem elementary to raise such questions regarding affective education. However, Morse (1982) states that the relationship of affect and school mental health has been neglected in our schools. He notes that there has probably never been a time when affective education was more needed. He cites as evidence the number of one-parent families, economic pressures, and the decrease in community support systems. This paper supports the use of affective education in the schools and discusses why it is needed, what we think affective education is, and how it can best be accomplished.

The importance of affective education was recognized by no less an authority than Edward Thorndike (1906) more than 70 years ago: "The guidance of social and emotional development is properly the major concern of education — only an emotional commitment by students can lead to maximized intellectual and cognitive growth." Currently, there are a number of reasons why this area of education is still so crucial:

1. The results of the 14th Annual Gallup Poll of the Public's Attitudes Toward the Public Schools (1982) showed that 27% of those surveyed felt that lack of discipline was the biggest problem in our schools.

2. The same poll shows 63% of the respondents thought that discipline problems were one of the main reasons for teachers leaving their jobs.

3. When people who work with youngsters lack an awareness of the affective domain, the detrimental effect is clearly evident. Examples are the child who exhibits a fear of failure by saying "I can't do it" before he has even seen the test item to be performed, and the child who displays a negative set toward reading as evidenced by profuse shaking, sweating,

and almost unintelligible responses when asked to read aloud.

4. P.L. 94-142, The Education for All Handicapped Children Act, made it mandatory for us to deal with severely emotionally disturbed children who have problems in the affective area.

These phenomena underscore the importance of affective education to help students and teachers toward greater understanding of themselves and others. It cannot be ignored in the instructional process.

Another elementary but important question that must be addressed is, "What is affective education?" This question could be approached in a number of different ways. One way, for example, would be from a broad frame of reference, on a continuum from primary intervention at one end to secondary/tertiary remediation at the other end. Perhaps an even better example of approaching this topic from a broad frame of reference would be the use of Krathwohl, Bloom, and Masia's (1964) Affective Taxonomy. It consists of the following aspects: receiving/attending, responding, valuing, organization, and characterization by value or value complex. The use of such a taxonomy provides specific topics that can serve as a basis for the development of affective programs.

Another way to clarify what we mean by affective education is to look at research on the interpersonal skills of young children considered *more* and *less* competent. This information has helped determine what should be included in an affective curriculum. For example, Strain and Kerr (1982) report that the more competent children are those who are observed:

1. Initiating social contact
2. Maintaining visual orientation toward social partner
3. Sharing toys and materials
4. Physically/verbally assisting another to accomplish some task
5. Responding quickly and positively to approach behavior by peers
6. Showing affection
7. Resolving conflicts by negotiation, persuasion, or ignoring

Likewise, information from observational research on less competent children reveals that certain behaviors may be associated with low social status and few friendships. Maladaptive behaviors include "(1) making derogatory remarks about a person; (2) disrupting others' play or work; and (3) unprovoked aggression toward peers" (Strain & Kerr, 1982, p. 66).

These interpersonal skills and maladaptive behaviors associated with competence (or the lack of it) represent behavior targets for instruction consistently identified across settings, client groups, and experimenters. This information thus provides a sound basis for deciding what needs to be included in an affective education program.

This brings us to the third and last elementary question: "How do you implement the affective program?" Morse (1982) makes it clear that we must consciously direct our affective interventions and leave nothing to chance. Fortunately, there are many good program ideas, and materials as well, for implementing such programs. We will review some of them.

Wood (1982) offers a perspective for looking at affective education programs. He separates affective education into two areas, one related more to affect awareness and the other to social skills training. He reminds us that the two areas are very much joined in reality, but that they can be separated to help us recognize differences in viewpoints and programs. Affective

educators in the first area "place greater stress on thoughts, feelings, and interpersonal relationships"; in the second area they are "curriculum developers who advocate social skills training and state their goals as the planning of experiences that will teach students behavior that can be used when appropriate to secure positive interpersonal consequences and avoid aversive consequences" (p. 212). The first group seems to follow a more humanistic and preventive direction, while the second group follows the direction of behavior modification and remediation.

Affect Awareness Programs

A program in the affect awareness area whose ideas suggest changes in school system structure and philosophy is the graduate program in Confluent Education at the University of California, Santa Barbara. Confluent Education (Brown, Phillips, & Shapiro, 1976) is an understanding of the natural relationship between affect and cognition and of the use of this relationship in teaching. The program emphasizes concepts such as *affective readiness*, which is seen as just as crucial as reading readiness or mathematical readiness; the concept of *affective loadings*, which are the emotional aspects of learning tasks; and the concept that *emotional awareness is a process* and not a goal. Awareness includes the teacher's awareness of himself/herself as well as his/her awareness of the student's involvement in the scheduled tasks. The program authors suggest that teachers continually ask themselves two basic questions: "How does the student feel right now about the content of what I am teaching?" and "Is there a better way to connect this content and the student's existence?" Confluent educators have developed exercises, techniques, and curricula to help students and teachers become aware of the relationship between affect and cognition in learning and living.

A system-wide awareness program is the Affective Education Program in the School District of Philadelphia, which has been operating since 1967 (Newberg, 1977). The program shows teachers, administrators, and parents how to personalize learning so that a student's emotional, intuitive, and creative life can find expression in relation to academic learning. The Affective Education Program has created curricula, courses, workshops, and new organizational structures. At the 11th grade level, a course entitled Communications helps foster communication among students, teaches them communication skills, and permits them to practice the skills. From kindergarten through 12th grade students are involved in setting, monitoring, and enforcing classroom discipline. "Problems, Plans, and Sharing" classrooms have been built on the base of classroom meetings, which are sharing, planning for projects, and problem-solving. Students sign a problems board to indicate they want time to discuss a personal problem. The discussion can be held with the teacher alone, in a small group, or with the class.

Other broad school awareness programs include the Primary Mental Health Project, Rochester, New York (Cowen, Dorr, Izzo, Madonia, & Trost, 1971); Project Aware in the Little Rock Public Schools (Elardo & Cooper, 1977); and the Learning about Social Behavior program in the Glendora, California Unified School District (Beall, 1982). These programs teach skills to assist students in understanding affective reasons for behavior and

skills to help them toward positive interpersonal relations.

Probably the oldest program to provide an affect curriculum is the causal learning program developed at The University of Iowa during the 1950s by Ralph Ojemann (1967). Dr. Ojemann believed that children should recognize the affective reasons for behavior or acts, and that schools generally imparted cognitive information and left out the affect or feelings involved. He developed curriculum materials in order to encourage teachers to include causal learning ideas in their regular social studies, reading, English, math, and other materials.

A number of individual programs stress awareness of feelings, thoughts, and values, and teach interpersonal relationship skills. Examples are: The Human Development Program (Bessell & Palomares, 1970)—most often called the Magic Circle program; Toward Affective Development (TAD) (Dupont, Gardner, & Brody, 1974); and Developing Understanding of Self and Others (DUSO) (Dinkmeyer, 1970). These programs teach understanding of feelings, interpersonal relations skills, and communication skills through the use of modeling, role playing, puppets, and specific lessons.

Values Clarification (Simon, Howe, & Kirschenbaum, 1978) provides information for teachers who wish to help students learn to recognize the source of their values. We are faced with decisions to make and actions to take each day, and ideally the choices we make will be on the basis of values we hold. Yet students are often not clear about their values in such areas as politics, religion, work, sex, money, and friends. Some schools provide elective courses in values clarification; others use parts of courses; and in certain schools a block of time from 5 minutes to 1 hour or more a day is set aside for this purpose.

Social Skills Training Programs

The social skills programs are based on learning theory and applied behavioral analysis. A comprehensive discussion of the use of behavior modification strategies with emotionally disturbed students is found in a recent article by Simpson and Sasso (1982), who note the successful use of these strategies to decelerate aggressive behavior, decrease social withdrawal, increase academic productivity, and decrease problems associated with hyperactivity.

Skill Streaming the Adolescent (Goldstein, Sprafkin, Gershaw, & Klein, 1980) is a structured program for teaching social skills. It was developed to teach social skills to adolescents who were often confronted and punished by authority figures for inappropriate behavior stemming from a deficiency in these skills. The program includes a curriculum, exercises, and evaluation measures. Goldstein has combined four elements useful for teaching social skills: modeling, role playing, performance feedback, and transfer of training. The program has also been used, with modification, for elementary age students.

Think Aloud (Camp & Bash, 1978) provides a curriculum that teaches children how to use cognitive skills to manage social behavior. The contents teach identification of feelings, recognition of cause and effect, listening and attending skills, problem solving, and evaluation of consequences. The students attend 30-minute daily sessions that involve modeling techniques and verbalization of cognitive activities.

Mediation Essays (Marshall, 1981) are a form of verbally mediated self-control. The system is directed by a supervising adult. The basic premise is that thinking about and verbalizing an action can facilitate change. The student must respond to four questions: What did I do wrong? Why shouldn't I do this? What should I do? What will happen if I do things appropriately?

Coaching (Oden & Asher, 1977) is the only technique to have a research base that includes a one-year follow-up with positive results. This technique was used with third and fourth grade socially isolated children to teach social skills. Coaching included (a) instructions from an adult concerning the formation of friendships, (b) games played with peers to practice social skills, and (c) a postplay review session with the coach.

Other Programs

There are programs that border on both the emotional awareness and social skills training areas. These are practical, short programs that teachers find useful. They usually combine a stop-the-behavior component and what-can-we-do-about-the-behavior component. One type of program that embraces the teaching of both affect awareness and social skills is relaxation training. There are a number of such materials available. Progressive Relaxation Training (Bernstein & Borkovec, 1973) consists of a relaxation audiotape and a manual for teachers. Peace, Harmony, and Awareness (Lupin, 1977) is a set of audiotapes useful for relaxation.

The Turtle Technique (Schneider & Robin, 1976) incorporates ideas from many sources. The teacher and students learn a stop-the-behavior signal (Turtle), a relaxation technique, a problem-solving technique, and a maintenance technique. The teacher and students learn to specify the problem and find appropriate interventions. The students are rewarded by teacher approval and peer approval.

The Life-Space Interview developed by Redl (1959) provides a way of managing behavior and an interview technique useful for helping teacher and child communicate. It includes first aid on the spot to stop behaviors and clinical exploitation of life events to permit discussion and resolution of problem behavior situations.

Teaching Children Self-Control (Fagen, Long, & Stevens, 1975) offers a curriculum approach to the development of self-control in elementary-age children. The aim is to prevent social and emotional problems while teaching children behavioral control skills. Eight skill clusters make up the curriculum. Four rely heavily on cognitive development and four focus on affective or emotional development.

Program Selection and Implementation

Some good guidelines are available for the selection and implementation of an affective education program. These guidelines are referenced to important variables that influence the success of the teaching-learning process and to the notion of the two affective education program strands — emotional awareness and social skills training — described by Wood (1982). The guidelines permit flexibility in the selection of programs or strategies, yet give some useful selection parameters.

Teachers can be guided initially by Wolfgang and Glickman (1980) who note that "teachers do not need to be committed to one 'faith' and instead can make their own choices." Wood (1982) supports this view: "Teachers need not be restricted to packaged models but (can) develop their own package by selecting the best features from a variety of packaged models." There are four distinct guidelines for this selection process. Morse (1982) describes the first two: "age relevance, meaning the use of procedures which are suited to the developmental state of the child rather than to chronological age" and "the use of processes which only require responses available in the children's repertoire, whatever their disability" (p. 211). The other two guidlines are described by Wood (1982).

> When the goal is to teach social behavior that has a must quality, the need for which is supported by a general community consensus such as safety or survival skills, social skills training procedures appear to be the best choice.
>
> When the goal is to help students experience feelings for their own sake or to explore the feelings that accompany their behavior, role playing, sensitive interviewing, psychodrama, and sociodrama procedures, all of which are usually categorized as affective education, appear to be good choices. (p. 212)

Once an affective methodology has been chosen, the teacher should consider implementation directions suggested in a number of recent studies. Swift and Spivack (1975) describe common elements in teaching strategies as: (a) "one-to-one contact between teacher and child" or getting to know the student on a personal basis; (b) "the teacher as a model" or the need to model the expected behavior; (c) "positive classroom environment" or a comfortable class where tension and excitement are at an appropriate level and support is available; (d) "clarifying environmental demands" or specification of classroom rules and instructional directions; and (e) "fostering self-control and independent problem solving."

Walker (1979) notes that learned behavior does not generalize unless we teach generalization, and suggests a two-stage process for teaching behavior change. The first stage requires strategies to produce change; the second stage requires strategies to insure change over time and generalization of the change to other settings.

The teaching of generalization is supported by Stokes and Baer (1977) in an interesting article that describes nine procedures for programing generalization. These range from the train-and-hope procedure to the use of mediation variables such as language and self-control strategies which are transituational.

According to Goldstein et al. (1980), learning a new behavior requires the provision of modeling (what to do), role playing (how to do it), performance feedback (how to do it better), and transfer of training.

Usefulness Assessment

The literature yields mixed findings on the usefulness of affective education programs. Elardo and Elardo (1976) evaluated four social development or emotional awareness programs and commented that none of them had ongoing programatic research or could show long term or longitudinal

effects. Seven emotional awareness programs and 11 evaluations of these programs were reviewed by Baskin and Hess (1980), who indicate that evaluation results show measurable outcomes in cognitive and overt-behavioral areas. However, Baskin and Hess conclude that the outcomes in internal emotional areas are less impressive. They note a number of evaluation difficulties, such as the difficulty of separating teacher and program effects, the uncertainty of behavior change over time, and the instability or lack of validity for a construct such as self-esteem or self-concept, which many programs attempt to improve. Comments by Goldstein et al. (1980) note tht evaluations of interventions involving large groups almost always indicate a lack of success; however, when subgroups of individuals within these large groups are examined separately, many treatments do prove to be effective. Firm statements are made by Kounin (1970), Morse (1982), and Simpson and Sasso (1982) that the teacher variable is the most crucial to effective intervention strategies. A summary of efficacy studies of affective education programs (Schmid & Nagata, 1983) shows the inconclusive nature of the research at this time.

It has also been noted in an extensive evaluative review of social skill training programs (Van Hasselt, Hersen, Whitehill, & Bellack, 1979) that a need exists for more information on generalization and maintenance of treatment gains. There has been a recognized need for generalization and transfer of affective learning (Stokes & Baer, 1977; Walker, 1979). Some studies have dealt with generalization by means of performance feedback, modeling, role playing, and social reinforcement (Matson, Esveldt-Dawson, Andrasik, Ollendick, Petti, & Hersen, 1980); role play and reinforcement procedures (Lebsock & Salzberg, 1981); and role play and self-monitoring (Warrenfeltz, Kelly, Salzberg, Baegle, Levy, Adams, & Crouse, 1981). These studies, which seem to follow the format set by Oden and Asher (1977), provide evidence of progress.

Other studies concerned with emotionally disturbed students and the affect area include reports on the use of relaxation and biofeedback training (Walton, 1979) and on social skills training using instructional material (Stephens, 1978), reported by Nunziata, Hill, and Krause (1981). These latter authors note that "the acquisition of appropriate social behaviors by students is most effectively managed through systematic teaching" (p. 245). The use of the Life Space Interview with clearly- and operationally-defined target behaviors (DeMagistris & Imber, 1980), a combination of positive peer culture and assertiveness training (Carducci, 1980), counting feelings (Bartels & Calkin, 1980), and the ecological model of Re-Ed (Montgomery & Van Fleet, 1978) indicate positive behavior change for the students involved. Except for the Re-Ed study which involved 138 students, these studies have each dealt with small numbers of students. Still, such studies represent a beginning and do demonstrate new affective behaviors can be learned. The major variables needed for success seem to be those described earlier in this paper under Program Selection and Implementation.

Anderson (1981), Gresham (1981a, 1981b), and Fitzgerald (1982) emphasize the need for research about programs and suggest useful methods for obtaining research data. Since current research results are not conclusive, it seems logical to suggest that persons interested in this area should make

a concerted effort to collect data to help resolve this question.

This article suggests that we are able to effect changes in social behavior and that we have already started to do so, at least with individuals and small groups, and primarily by using behavior modification techniques. There is a beginning recognition of the systematic efforts needed to bring about successful affective education programs. Change will require greater teacher awareness and knowledge of affective education before there can be systematic teaching of affective knowledge and skills. Even then change will take time as noted by Morse (1982):

> Changes in fundamental affective dispositions are made over time, as new concepts become embedded in the self. New ways have to be practiced, tested, and adopted by the individual child, and there are relapses. Dramatic changes are less likely than gradually emerging new behaviors which must be supported in day-to-day living situations.
>
> Affective education requires consciously directing our affective interventions and not leaving the matter to happenstance or haphazard efforts. (p. 210)

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Curriculum for Caring: Service Learning with Behaviorally Disordered Students

Abe Nicolaou and Larry K. Brendtro

The difficulty that seriously emotionally disturbed persons experience in forming or maintaining effective interpersonal relationships is an almost universal component of federal and state definitions for this disability. Yet, in the face of this impediment in the social domain, our curricular approaches in behavior disorders have been almost exclusively individualistic. While we are able to document our successes in instructing to precisely measured objectives, we too often have fallen short of the goal of instilling prosocial, responsible, caring interpersonal behavior in troubled children and adolescents.

There are now abundant signs that our field is in the midst of a course correction toward the interpersonal approach as seen in the interest in topics such as social skill instruction (Cartledge & Milburn, 1980; Brendtro, Ness, & Milburn, 1983), peer tutoring or counseling (Jenkins & Jenkins, 1981), moral and value development (Lockwood, 1978), collectivity reinforcement and cooperative learning (Johnson, & Johnson, 1975). This paper highlights one other promising avenue for teaching responsible behavior and values. While compatible with any of the above strategies, our goal is much more ambitious, for we propose the development of a "curriculum for caring," to use a phrase from Fantini (1980).

Lest such a lofty goal as teaching caring be seen as Pollyanna, let us dispel any illusions and state what we believe:

1. Troubled youngsters will not necessarily learn to be caring just by being exposed to teachers who care, though such models are certainly necessary.

2. Troubled youngsters cannot be taught how to care by teaching them about caring (Fantini, 1980).

3. It is not likely that one could develop a curriculum for caring simply by breaking such behavior down through some task analysis and then teaching these molecular skills like we might an arithmetic problem.

4. Most behaviorally disordered children want to be altruistic, helping, or kind. However, many have learned to view hurting behavior as fashionable while helping or being "nice" to others is seen as a sign of weakness.

This article is an extension of the work by Brendtro, L., & Nicolaou, A. (1982). Hooked on helping. *Synergist, 10*, 38-41.

What we report here is the result of several years of efforts to directly teach caring behavior and values to troubled children and adolescents through a curriculum based on *service-learning*, viz. *involvement in meaningful, genuine volunteer projects undertaken solely for the intrinsic satisfaction of helping others* — all of this by children whose trademark has been narcissism.

Before proceeding to our discussion of the specifics of service-learning, a note on the evolution of this concept is in order. This program is a natural extension of our earlier efforts to develop positive peer subcultures among delinquent adolescents (Vorrath & Brendtro, 1974). Even though these programs were able to tap the power of the peer group and involve troubled youth in the responsibility of managing their behavior, a number of serious questions remained (Brendtro & Ness, 1983). Two of the most troublesome issues were these:

1. *The problem of generalization.* Intensive group programs tended to create a "greenhouse effect." While youth became very involved in helping members of their immediate group, there was a lack of effective procedures to generalize this behavior. *How could helping and caring be transferred to the real world?*

2. *The problem of genuineness.* Too often it seemed that groups were only playing an institutionalized "helping" game. As they worked to assist one another in gaining release from incarceration, they were actually developing a sophisticated "escape" plan. The self-serving payoff of getting out of the program only served to enhance conning behavior. *How could self-centered youth learn to genuinely care about others?*

The service-learning programs at The Starr Commonwealth Schools have been specifically designed to address these issues. Starr Commonwealth is a nonprofit organization with campuses at Albion, Michigan, Van Wert, Ohio, and Columbus, Ohio which operates residential treatment schools serving a total of 250 boys and girls and also conducts alternative day school programs and community counseling centers. Referrals to Starr's programs are made by court, social service agencies, and school personnel. Most youth have had some contact with the police, have come from problem families, and have generally poor records of school adjustment. They are the dropouts and pushouts of mainline youth organizations, and their referral to Starr Commonwealth is often the next-to-the-last step on a journey that might otherwise take them to a state institution. Residential cottages are comprised of 10 to 12 students who spend much of their time in recreation, study, and group living with this particular group of peers. Through a process of regular daily group meetings conducted by staff, coupled with the coordinated teamwork of teachers, child care workers, and counselors, the youngsters participate in a carefully planned milieu designed to create positive, caring culture. Typical length of stay is approximately 9 months to 1 year.

One component of the educational and treatment programs emphasizes a positive peer culture process to promote responsibility to self and others. A parallel emphasis is placed on the importance of helping beyond the confines of the educational or treatment group. Through participation in a variety of community service activities and person-to-person helping projects, young people become a resource to the community at large.

Over one hundred helping projects are conducted each year at The Starr Commonwealth Schools in a wide variety of settings. Some of these projects are of short duration while others are carried on regularly over a period of many months. Illustrations include:

- Serving as teacher aides at a community day-care center
- Operating summer recreation programs for neighborhood children
- Assisting in Special Olympic events for the handicapped
- Working with retarded children at a special school and a state hospital
- Earning money to provide food for a needy family
- Chopping firewood for the disabled
- Visiting shut-in citizens

As Fantini (1980) has stated, the range of possible service-oriented activities is virtually without limit if educators use a little thought and imagination.

Making Caring Fashionable

While participation in helping projects offers the potential for increased self-esteem and competence for troubled adolescents, these programs must surmount a formidable obstacle. Among students who may be notoriously self-centered and exploitive of others, caring is not fashionable. To transcend this egocentrism, they must become committed to caring. Saurman and Nash (1980) correctly prescribe service to others as an antidote to narcissism. The real challenge is to get individuals hooked on something beyond themselves.

Service-learning programs can capture the commitment of troubled youth by appealing to their natural interests and motivations. For example, many are more receptive to approaches that reinforce their maturity ("you can be of real help to these people") than those approaches that maintain their dependence ("this will help you with your problems"). Helping others needs to be seen as an act of strength ("this will be a tough job") rather than weakness ("this will be easy"). Service projects must also be seen as exciting and spontaneous rather than routine and regimented. In writing about city youth and the spirit of the city streets, the pioneer social worker Jane Addams (1909) observed that many of the problems of delinquency really were only expressions of strong appetites for excitement and adventure. Highly adventuresome projects may be rare and are often only spontaneously available (although groups of delinquents have built levees to stop a flood and assisted with disaster work after a tornado). Yet with creative forethought and planning it is possible to eschew repetitive, nonchallenging helping projects in preference to projects with interest, variety, and challenge. Since adolescents need continuity and security as well as change and stimulation, successful helping projects cannot be either "one night stands" devoid of relationships, or institutionalized rituals without meaning.

Traditional group counseling programs have attempted to tap the potential in troubled youth to be of service to their peers. Yet caring for one's close peers is not the ultimate proof of humanity since even members of criminal gangs have such solidarity. Programs that make a lasting impact must generalize helping behavior beyond the "in" group. The more irresponsible the youth has been, the greater the need for involvement in significant roles of service. Precisely because many troubled youth have

been deprived of positive interpersonal relationships, projects involving genuine people-to-people service are preferable to depersonalized, more abstract helping.

The question has been posed as to whether a service-learning program would be effective with younger children or in another treatment philosophy. While service-learning with adolescents has received most attention, these programs can also be used with younger children as well. The following projects were successfully completed by boys and girls between 8 and 12 years of age who were students at the Columbus, Ohio campus of The Starr Commonwealth Schools in a program utilizing a social learning theory modality:

- Preparing a house and yard for a new refugee family, planting flowers, bringing toys to welcome the children.
- Buying canned goods for needy families using money accumulated by the children as a result of no breakage or vandalism in the school over an extended period.
- Culminating a week-long summer school module on "Helping Someone Else" by putting on a rhythm band concert at a camp for the mentally retarded.

With activities appropriate to the maturity of students, service-learning projects show promise with elementary-age children as well as adolescents.

Developing Successful Projects

In completing a large number of successful service-learning activities, staff have developed a core of "practice wisdom" concerning the ingredients of successful projects.

When groups are first beginning, it is usually best to attempt small, simple projects with limited time horizons. A highly disorganized group may also respond better to a project that is heavily motoric than to one requiring sophisticated interpersonal relationships. One such group readily accepted the challenge of painting the bridges in a city park; another group had a very positive experience chopping firewood for a large family of small children where the father was temporarily disabled. Success in such limited projects can then lead to helping relationships of a more complex nature. Thus a more mature group assumed responsibility for rebuilding a burned-out picnic shelter at the Camp Fire Girls' campground. This project called for a great deal of cooperative behavior over an extended period of time, but resulted in a high level of community recognition for the young people involved who became veritable heroes for their feat.

Although sound planning is important for the success of complex projects, this does not preclude the realistic possibility that many successful projects develop around events that are spontaneous, serendipitous, and even a bit adventurous. For example, a group of youth who had been highly disorganized and incapable of complex helping projects responded enthusiastically when they were called upon to join in a search of the woods for a lost preschool child. Staff were even able to involve the negative peer leaders in the group who, although resisting more mundane service projects, readily participated in an activity with a flair for adventure. Once negative leaders find that they can also obtain satisfaction from positive leadership roles, the foundation for further service-learning has been laid.

In effect, youth previously denied satisfaction from exploiting others now have become hooked on helping.

A somewhat different example of a spontaneous project was seen in a group which successfully solicited surplus flowers from a department store the day after Mother's Day in order that these might be redistributed to residents of a nursing home "who didn't have anybody give them flowers on Mother's Day."

The variety of helping projects offers many opportunities for integrating service-learning with other areas of the curriculum as seen from the following examples:

- Students who participated in a "Sitting Tall" program of horsemanship for severely crippled children were simultaneously involved in studying the history of the handicapped in our society as well as learning communication skills which would enable them to relate to the severely disabled.
- In constructing the picnic pavilion for the Camp Fire Girls, youths worked closely with their industrial arts instructor to master the woodworking and building trade skills necessary for completion of this particularly complex project.
- A group of students studied clowning in art and drama which led to a series of clowning performances for small children in the community day-care center.
- A program of visitation to the community senior citizens' home led to a study of the process of aging and death in the social science curriculum. This was particularly relevant to students since upon return visits to the senior citizen center they would typically find that someone they had helped at a previous visit had subsequently died.

Conventional practice in most schools is to give the highest recognition to self-serving personal achievements by students such as scholarships to the gifted and trophies or letters to those with athletic prowess. While competitive activities by individuals and groups do receive their share of attention, teachers make an attempt to dramatize and reinforce the importance of successful bulletin board displays with photographs from various projects, to post the letters of appreciation from community leaders, and when appropriate, to encourage newspaper publicity surrounding a particularly interesting and successful community service activity.

Stages of a Curriculum for Caring

In spite of the great diversity of projects, most service-learning activities proceed through four stages, namely identification of project, orientation of students, implementation, and evaluation.

Identification. In this initial stage, members of the staff work independently or with students to identify potential areas of service. The projects must meet several criteria. These must not be "make-work" but reflect a genuine need that exists in a community. Care must be taken that students are not exploited through the particular voluntary work they are to undertake. The task must be appropriate to the maturity of the young people involved. For example, the students who worked with retarded youth were quite capable of carrying out extended relationships with a group of seriously handicapped persons; not all groups would be ready to undertake

such a complex project initially. Staff members must determine that the project is in fact feasible, that the logistics of money, regulations, travel, etc. will be workable and will not interfere with the successful consummation of the project.

Orientation. The next stage is to orient the students to the proposed project and to determine their possible interest in service. This involves exposing young people to concepts, people, or situations so that they develop an awareness of the existence of a need for service. In some cases the need may be dramatically self-evident. In the case of a tornado one had only to explain to the group that an entire community had been devastated and volunteers were sought to help clear the rubble. In another situation the need may be introduced more obliquely to arouse interest. A psychologist from a state hospital for retarded children came to present a color slide show on mental retardation. This created initial interest which was followed by a tour of the hospital. Only at that point, dependent upon the reaction of young people during this period of orientation, was a decision made that a specific proposal for involving the youth as recreation aides might be placed before the students. When students are aware of a need and motivated to be of service, then staff members and youth can begin planning the third stage, participation in service activity.

Implementation. Young people are involved to the maximum extent possible in organizing the project, executing the activity, and evaluating the service experience. As seen from the great variety of activities, each project requires its own unique pattern for organization and implementation. Successful involvement in providing a genuine service to others usually increases motivation for further service. The project can continue until the need is met and/or until new challenges are desired. At that point, students and staff members are again ready to identify further potential areas of service.

Evaluation. Almost all evaluations of projects to date are based on ongoing informal, interpersonal feedback among staff members, students, and those being served. In the final analysis the goal is to create a positive caring atmosphere where service to others becomes a life style; youth should not experience such activity as some kind of "treatment program" but as a community of humans reaching out to one another.

While qualitative evaluation is useful, nevertheless there is a need to develop creative evaluative designs to more precisely assess the nature of the impact of service-learning on students and those they serve. In ongoing evaluations of a Starr Commonwealth program utilizing a peer group process with a strong service-learning component, a number of positive gains were noted in the following areas:

1. statistically significant increase in self-esteem using a pre- and post-test design;
2. statistically significant increase in a measure of locus of responsibility (internal locus of control); and
3. increased gains of educational achievement with 1.5 years of overall average gain per year.

In addition, staff members reported overall reductions in vandalization of school property, length of stay in the program, and incidence of truancy.

While these results are encouraging, one must be cautious against draw-

ing direct causal relationships because of the interaction effects of the various program components. This underscores the need for further research.

As with any other education activity, service-learning programs are not without their problems. However, once the group of young people become invested in a project, they encounter suprisingly few difficulties as there is strong peer support for succeeding. Members of the staff make an attempt to have the entire programs seen as belonging to the young people themselves and not as a program imposed by adults. Perhaps the most frequent difficulty experienced has been dealing with isolated members of the group who resist involvement while most of the group is motivated for a project. The resonsibility for dealing with such problems is left with the group as is seen in the following account:

> A class group was planning on a project at the state hospital for the mentally retarded when a particular youngster became rather adamant in his refusal to join in this activity. After his peers talked with him for some time about his feelings, it was finally revealed that his own mother was mentally retarded, a fact which he had tried to hide from his friends. His conflict about being ashamed of his mother while still loving her was brought into focus by the anticipated helping project with retarded children. After expressing these feelings, the youth was able with the support of the group to enter into a most successful service-learning activity which helped him gain a new perspective on the difficulties and challenges experienced by his mother.

Once young people experience the satisfaction that comes from helping others, they frequently express concern about how they might be able to continue service once they return to their own community schools. This poses a most ironic situation: those who previously were the greatest troublemakers now desire to help others but the school and community have few appropriate roles for such service. Too often, a student returning from special education placement encounters reluctance and distrust on the part of faculty who remember the past and are skeptical about the youth's motivation. Unless other school personnel are exposed to the concept of service-learning, they will have little sensitivity for using once-troubled youth in these important roles.

Prior to the student's reentry into the mainstream, it is crucial to carefully communicate the changes that have occurred in the young person and give examples of positive service activities in which the student has been involved. The idea of service-learning is not inherently difficult to communicate, and many school counselors or principals are ready to use the young person in a positive manner once they understand the concept. Schools can be encouraged to adopt programs for such students. Thus, one girl, upon her return to a public school setting, was assigned for a portion of the day as a peer helper in a resource room for the handicapped, while another student worked parttime with the guidance department in a peer counseling program. These examples suggest that to fail to provide an avenue of service for these motivated youth who have learned to help others is a waste of human resources just as if nurses or teachers or doctors were deprived of opportunities for practicing their skills.

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Understanding the Relationship between Cognitive Development and Classroom Management Decisions

Paul Zionts and Charles Weddle

ABSTRACT

The authors propose that there is a crucial factor which has been ignored in behavioral and classroom management intervention decisions. They argue that the individual student's cognitive level should be considered when proposing a specific emotive/social strategy. The research and literature in support of this view is examined, specifically the work of Piaget and Kohlberg.

Managing disturbed and disturbing students is clearly one of the most pervasive issues in the field of education (Rich, 1982; Walker, 1979). The reasons behind this concern, and the level of concern, are a matter of perspective. However, the fact that discipline, or the perceived lack of it, remains an educational priority is unquestionable (Gallup, 1982).

Classroom management and behavioral management are terms which are used interchangeably. Their meanings may vary considerably to teachers. Often, special educators are considered to be the experts in dealing with disruptive behaviors. If a student is disturbed or disturbing, educators may go to the special educator for assistance. If the intervention is focused solely upon the child, a *behavioral management* program has been developed.

If the referring teacher is at least partially responsible for the student's behaviors, and perhaps the classroom and/or parents are additional negative influences, the teacher may attempt to present techniques to modify the student's environment. This would be the concept of *classroom management.* Unfortunately, classroom management may be the single most important criterion used by some administrators in evaluating teacher performance in the classroom.

As with many educational problems, educators often search for the elusive, magical, 5-minute intervention that will cure all of their classroom management ills. It is safe to suggest that it is somewhat simplistic, possibly dangerous, to assume that any one discipline technique or method will serve as a panacea. There is no "aspirin" which will alleviate all behavior disorders in the classroom. Witness the comings and goings of such interventions as reality therapy, behavior modification, transactional analysis,

and, more recently, assertive discipline. There appears to be no quick remedy.

In terms of establishing and maintaining effective classroom discipline, teachers may be ignoring a crucial factor — individualization. Granted this is probably an overused term in special education. The authors define individualization as having two meanings. First, there is individualization in the behavior modification sense, whereby specific behaviors are observed and targeted for strengthening or elimination. Yet all students do not exhibit the targeted behaviors to the same degree. Further, it is individualized in that not all persons will respond in the same manner to the same contingencies (Rutherford & Nelson, 1982).

Another form of individualization is related to the daily interaction with students. This type occurs when the student's level of understanding is taken into account during the selection of a given intervention or strategy. The student's cognitive level is one factor to consider when selecting the type of behavioral intervention which is most likely to succeed. Unfortunately, while "cognitive level" has greatly influenced such areas as instructional planning, it has had little impact on methods of classroom or behavior management for students. The theory and practice of moral development combines the variables of cognition and reasoning in understanding how to teach and communicate with students. The purpose of introducing such a curriculum into the special education classroom would be to enhance the reasoning ability of disturbed and disturbing students. This ability may allow students to examine situations from both their own perspective and the perspective of others in conflict situations. Before utilizing moral development as part of classroom management decisions, an understanding of the developmental process is necessary.

THE DEVELOPMENTAL POINT OF VIEW

The pioneer work of Piaget (1968/1971), Kohlberg (1969, 1973), and their colleagues suggests the development occurs sequentially through specific stages, each of which represent qualitatively different and increasingly more complex thought patterns than the preceding ones. Furthermore, development appears to be dependent upon confrontation with ideas or events which cause disequilibrium or cognitive dissonance. Such confrontation leads the individual to examine more advanced ways of organizing and processing information. This, in turn, may lead to more mature levels of behavior in the individual.

Piaget (1968/1971) describes developmental stages in terms of the following four characteristics. First, stages are characterized by qualitatively different modes of thought patterns which accompany them. Second, development through the various stages is invariant. While the rate at which a given individual passes through the stages may vary, the sequence of such passage is fixed. Third, the stages form structured wholes. In other words, responses at a given stage are based upon underlying thought patterns. And fourth, the stages are hierarchically arranged structures which are developed during one stage and are incorporated into more complex structures in later stages.

It is important, from an educational viewpoint, to have some understanding of how one moves from one stage to the next higher level of develop-

ment. Ginsburg and Oper (1969) detail four factors which seem to be related to the notion of stage transition. These include equilibration, maturation, social transmission, and experience. Equilibration is the "internal regulatory factor underlying a biological organization; it is manifested in all life, particularly in the development and activity of intelligence" (Furth, 1970, p. 154). This concept links evolution with the developmental process. Therefore, it is one which may be continually in a state of flux. Equilibration, as a process, is not dependent upon environmental considerations, and maturation is a distinctly biological process. Thus, these two factors are beyond the control of outside influences and are unrelated to intervention strategies.

Social transmission and experience are subject to environmental manipulation. These factors can be taken into consideration when planning for and working with individuals. For example, information can be transmitted to an individual based upon his current cognitive capabilities. Appropriate and meaningful experiences are necessary foundations for passage from one stage to the next.

Piaget's educational goal was to stimulate further thought and research on moral judgment which he perceived as "a system of rules ... (and) the essence of all morality is to be sought for in the respect which the individual acquires for these rules" (Piaget, 1932, p. 1). In terms of understanding the rules, Piaget was interested in two phenomena he viewed as integral: (a) *practice*, or the ways children of different ages (stages) apply rules; and (b) *consciousness*, the perceptions that children of different ages (stages) have of how rules are formed, where they originate, and whether they can be changed. What the actual rules entailed, their content, was of little interest to Piaget. He believed that children do not attain growth, affective or cognitive, without interaction with their environment. This interaction, combined with the ability to reflect upon events, enables the promotion of development.

Integral to the developmental process is the concept of *decalage* which can best be described as horizontal growth. In other words, when students reach a particular cognitive level, such as Piaget's concrete or formal operational stages, they do not magically have the ability to perform all of the tasks which are characteristic of those stages. It normally takes a period of years for the students to master most of the stage-appropriate behaviors. They will not progress to the next higher stage until they have mastered most of these activities. Research has supported the notion of decalage in moral judgment, as cognitive maturity has been determined to be one of the prerequisites for moral growth. That is, for a student to reach a particular stage in moral development or reasoning, s/he must be functioning at the corresponding cognitive stage.

A classroom example of decalage may be when a child can decode a certain number of words and is placed in a particular reading group with little attention paid to other skills such as comprehension. While the student may certainly demonstrate some of the reading knowledge which corresponds to the grade level, s/he would certainly be at a disadvantage in other areas. This practice may set the child up for failure. It is an instance of presupposing that decalage has occurred when it hasn't. The student has *to*

be taught the missing skills in order to be truly on "grade level." Kohlberg (1973) assets that "psychometric brightness heavily influences performance on pure tests of conservation or concrete reasoning, but is less determinative of the application of concrete reasoning to areas of casual thinking, concepts of dreams, social identities and so on" (p. 32).

The implications of decalage are clear in a management sense. While a student may have the cognitive ability to reason within the framework of a given rules system, there may be other factors which inhibit or prevent this student from operating or functioning acceptably within such a setting. These may include lack of stimulation and/or interaction with an environment which invites higher level reasoning.

Regular educators and special educators alike are only too aware of the special education student's apparent inability to behave appropriately in the regular setting. And yet, the special educators could present evidence which would lead anyone to conclude that the student has displayed prosocial behaviors in the special setting. Too little attention has been paid to the environmental requirements of the student in the *specific* regular setting (Swap, 1977).

A classroom example of the above-stated concept would be to identify those students who do not possess the cognitive ability to reason at higher levels, but because of their chronological ages such higher reasoning is expected. Teachers often have the suppositions that their students are capable of making proper decisions, but *choose* instead to behave in an inappropriate manner. The literature of moral development suggests that the above notions may be faulty and, therefore, teachers may be requesting reasoning, and behaviors resulting from such, which the students are not capable of producing, perhaps creating a hidden handicap (Bear & Richards, 1981; George, 1980). The hidden handicap is that teachers may believe that the student knows better than to behave maladaptively, when in fact, the student may be operating from a very limited viewpoint. In other words, higher levels of cognition appear to be necessary but not sufficient in terms of students achieving more mature levels of behavior.

Kohlberg (1969, 1973) suggests that moral development is not a personality oriented approach. In fact, there has been evidence to suggest that moral-cognitive development may stimulate other facets of development much in the same fashion of Piaget's (1932) horizontal decalage. Kohlberg's (1973) model stresses: (a) knowledge of the child's stage of functioning, (b) arousal among children of genuine cognitive and social conflict and disagreement about problematic situations, and (c) the presentation of modes of thought one stage above the child's own (p. 9). This interactive approach is one which has been effective in promoting the reasoning ability of students.

MANAGEMENT IMPLICATIONS OF THE DEVELOPMENTAL POINT OF VIEW

Research has supported the relationship betwen moral development and action. Labeled *sociopaths* (Campagna & Hunter, 1975), emotionally disturbed students (Chandler, Greenspan, & Barenboim, 1974) and juvenile delinquent populations (Foder, 1973; Hains & Miller, 1980) were found to be consistently lower in moral reasoning when compared to *normal* popula-

tions. Implicit in these findings is that those individuals operating on lower stages of moral judgment or reasoning do not have the ability to fully interpret situations and conflicts as they occur.

The presence of such ability does not necessarily guarantee that those individuals operating at higher stages will behave more appropriately; rather it suggests that they will understand the consequences of their actions with regard to significant others, society, and their own long-term goals.

Knowledge of developmental levels can provide teachers the means to understand the reasoning ability of their students. This may be particularly useful when considering which interventions to utilize with particular individuals in their classrooms. As suggested, students may be operating at different levels of the practice and consciousness of rules.

Further, when one chooses a specific emotive/social intervention, the students' grade equivalents are often considered. That is, behavior modification may be more appropriate for primary grade students and reality therapy may be more appropriate for high school students (George, 1980). High school teachers often become frustrated when their students cannot seem to respond to the dictums of reality therapy, such as having the ability to choose alternatives and long-term goals. This paper suggests tht these students are not being stubborn, but rather, they are not at the *practice* and *consciousness* levels sufficient to fully understand the intervention.

Likewise, the students who are operating on higher levels seem to reject the "carrot" approach of behavior modification. They may not be in school for material rewards, but, instead, they are in school to learn. These students may very well respond to a cognitive therapy.

If it is the goal of special education to mainstream these disturbed and disturbing children, there is a need to help children learn to contol their behaviors in various settings. These children must develop abilities to problem-solve and resolve new conflicts. Pappanikou (1979) argues that if the system from which the child come has not been mainstreamed, the chances of success for the student dwindles considerably upon his/her return to it. A student who enters that system (the mainstream) without the tools to recognize and solve conflicts has little chance of success.

If the mainstream teachers have not modified their system to take into account children's handicaps, chances are that students will be getting mixed messages. Cooney (1977) points out that "one of the striking features of social interaction as compared with the physical world is the much greater complexity of the social feedback system. The physical world responds to the child and his/her actions in a relatively visible and uniform way" (p. 7). The special educator often tries to present a management system which is consistent in that same "relatively visible and uniform way". The mainstream rarely provides this feedback, which may in turn create stress for the student. It is important that the students are presented with the abilities to adequately fit into the mainstream. Teachers must develop in their students the ability to assess situations and see beyond their own often egocentric point of view. This may be accomplished by considering their students' cognitive, and ultimately, their moral development levels.

In conclusion, it has been suggested that approaches to behavior and classroom management have been heretofore too simplistic. One impor-

tant factor seems to have been neglected in much of the literature and practice. The efficacy of any intervention may, in fact, be closely related to the students' cognitive and reasoning levels. The authors are currently involved in investigations with cross-sectional populations and specific interventions to test this hypothesis.

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